PC AGENDA: 11-15-00
ITEM: 10.a. & b.

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: PLANNING COMMISSION **FROM:** James R. Derryberry

SUBJECT: METCALF ENERGY CENTER (GP 99-02-01 and PDC 99-08-071) **DATE:** November 13, 2000

Council District: 2

RECOMMENDATION

For the reasons stated in the staff report, the Department of Planning, Building and Code Enforcement recommends **no change** to the existing Campus Industrial General Plan designation and **denial** of the proposed Prezoning/Rezoning to A(PD) Planned Development District in connection with the proposed Metcalf Energy Center located at the southeasterly base of Tulare Hill.

The proposed Metcalf Energy Center in North Coyote Valley raises many complex and interrelated issues including appropriate land use, environmental impacts and electrical system reliability. The main issue, however, is a basic one: **Is this location in Coyote Valley appropriate for a 600-megawatt power plant?** While an in-depth analysis of the technical aspects of the project is important, the compliance of a project with the land use regulations of the local jurisdiction forms the fundamental basis for the City's decision on this project. As there are many contributing factors to the current problems with the electrical supply system, new power plants are not the only solution and should only be sited in a manner that is consistent with the planning policies of the local community in which they are proposed.

Among the key reasons for staff's opposition to the project are:

- The land use change to facilitate a 600 Mw power plant in North Coyote Valley is inconsistent with the Major Strategies, Goals and Policies of the General Plan.

- The proposed location in Coyote Valley is inappropriate for a power plant as it is a heavy industrial use and is inconsistent with the long-standing plans and vision for the area as portrayed in the *San Jose 2020 General Plan.*

- The proposed Metcalf Energy Center is inconsistent with the *North Coyote Valley Campus Industrial Area Master Development Plan* and *Riparian Corridor Policy.*

- The proposed Metcalf Energy Center is fundamentally incompatible with existing and planned land uses.

- There is an unacceptable level of uncertainty regarding the project's impacts to local air quality, public health, noise, and biological resources.

- The urgency of the need for the proposed power plant is not such that it would warrant its siting in conflict with the land use policies of the City of San Jose. The proposed power plant is not required in order to maintain electrical system reliability as new transmission improvements and generation projects are already underway and planned, which will reduce energy transmission and supply problems in the immediate and far term.

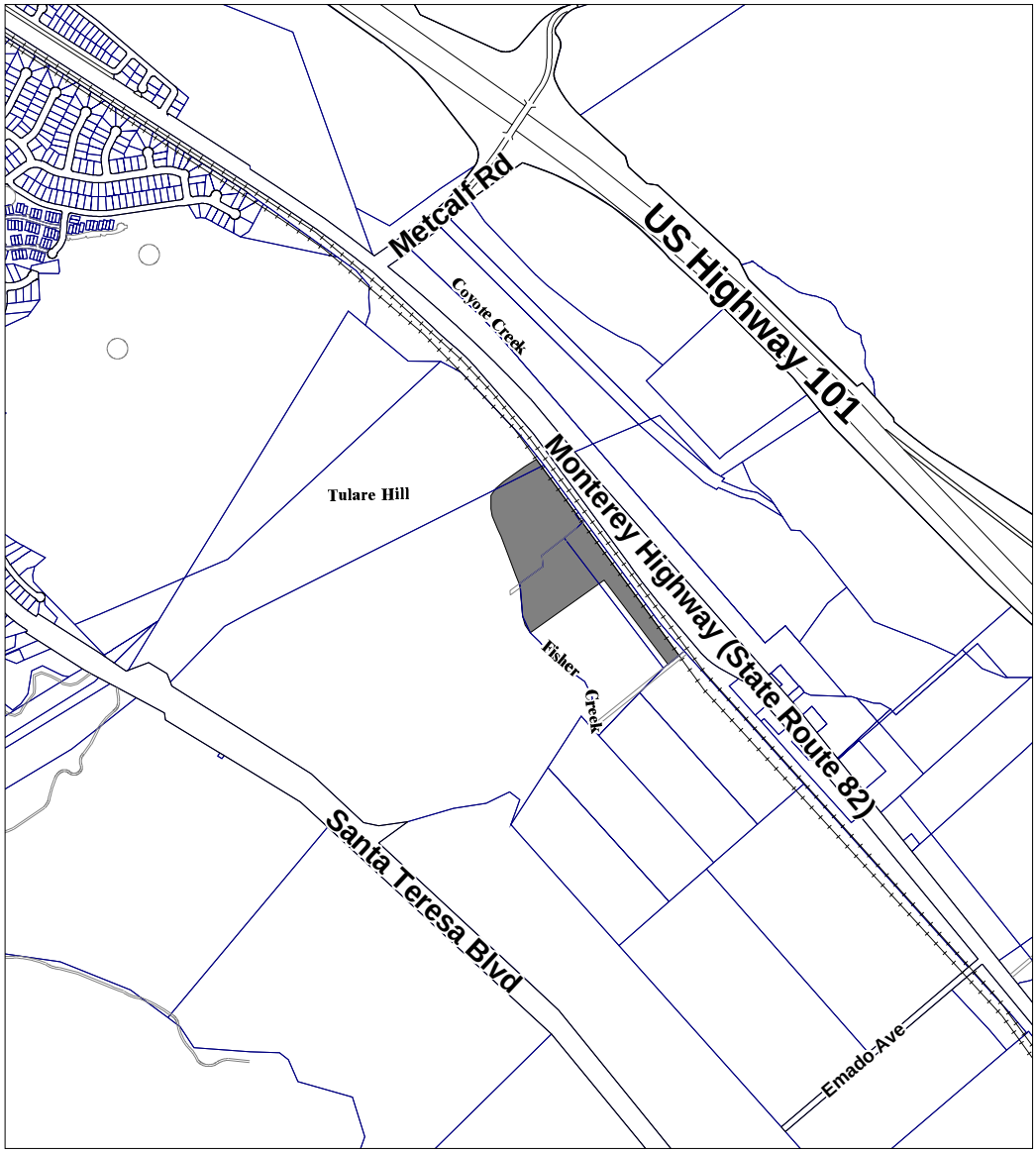
BACKGROUND

In 1999, Calpine/Bechtel Joint Venture initiated a request to change the Land Use/Transportation Diagram designation from Campus Industrial to Public/Quasi-Public on a 20-acre property located at the southeasterly base of Tulare Hill in North Coyote Valley. A ten-acre portion of the property is currently unincorporated. This amendment is specifically intended to facilitate the construction of a 600-megawatt, natural gas-fired, combined cycle power plant at the subject location. The applicant is attracted to this site given its close proximity to PG&E's Metcalf Substation, existing transmission lines, and natural gas pipe line.

The proposed power plant requires the construction of a 7.3 mile recycled water line to provide 2.9 to 5.8 millions of gallons per day of recycled water, from the South Bay Water Recycling Program to the plant for cooling purposes. Natural gas would be delivered to the site via a new, approximately one mile long underground gas line located between the plant and the existing PG&E natural gas transmission line located east of Highway 101. This amendment was deferred from the 1999 General Plan Annual Review to allow the completion of an environmental document by the California Energy Commission.

In addition to the General Plan amendment, the City of San Jose is also concurrently reviewing a Planned Development Prezoning/Rezoning (File No. PDC99-08-071) for the entire site, and an Annexation application for the northerly 10 acres of the site (Riverside No. 49) that is currently unincorporated and under the jurisdiction of the County of Santa Clara. A Planned Development Permit (PD 00-09-071) is also on file and is awaiting the outcome of the General Plan and zoning actions. This staff report analyzes General Plan policy and zoning level issues. While this staff report is not in the typical format for either a General Plan amendment or a rezoning, attached to the report are the rezoning plan set, including General Development Plan, proposed conditions, and memoranda from City Departments.

GP99-02-01



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CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

EXISTING GENERAL PLAN DESIGNATION

The existing Campus Industrial General Plan designation in the North Coyote Valley consists of approximately 1400 acres and is intended to support the development of large, single-user industrial sites within a high prestige industrial area. Campus industrial development should be of high quality, being sensitive to the area's environmental features such as hills, views, existing trees, and agricultural history. Typical uses in this designation include industrial research and development, administration, marketing, assembly and manufacturing. Campus areas are typically planned at sizes of at least twenty acres. The specific development requirements of the Campus Industrial designation in Coyote Valley are contained in the *North Coyote Valley Campus Industrial Area Master Development Plan* that delineates the vision for North Coyote Valley. The plan includes guidelines for public and private improvements, and key provisions that should be included in all Planned Development zonings. The *Master Development Plan* was updated in October 2000 to reflect recent changes to the General Plan and other policies.

PROPOSED GENERAL PLAN DESIGNATION

A 600-megawatt power plant is a heavy industrial use. Heavy industrial uses have nuisance or hazardous characteristics, which for reasons of health, safety, and environmental effects are best segregated from other uses. Despite the heavy industrial nature of the proposed Metcalf Energy Center, Planning staff determined that the Public/Quasi-Public designation is most relevant for this project in order maintain control of land use activities in North Coyote Valley.

The proposed Public/Quasi-Public designation is most commonly used to designate public land uses (e.g., schools, libraries, fire stations, and airports) and some quasi-public uses (e.g., utilities, churches and private schools). For example, the nearby PG&E Metcalf Substation is designated as Public/Quasi-Public. The text of the General Plan was amended during the 1999 General Plan Annual Review (GP99-T-1) to include the facilities of any organization involved in the provision of public services such as gas, water, electricity, and telecommunications as permitted within this designation. In spite of the heavy industrial nature of the proposed power plant, the provision of electricity is considered a quasi-public activity which could occur under the Public/Quasi-Public General Plan designation.

The General Plan does not specify sites for all future public or quasi-public development. A Discretionary Alternate Use Policy allows for new Public/Quasi-Public uses in areas with other designations without a General Plan Amendment. Planning staff determined that it would not be appropriate to apply the Discretionary Alternate Use policy in this case given the magnitude of the proposed Metcalf Energy Center and the controversial nature of the power plant proposal. Thus the applicant was required to file the subject General Plan amendment.

EXISTING AND PROPOSED ZONING DISTRICTS

Ten acres of the site are currently unincorporated and the other ten acres are zoned A Agriculture. San Jose's Zoning Ordinance allows for power plants only in the M-4 Manufacturing District. This is the least restrictive of all the conventional zoning districts and is intended for heavy industrial uses such as a power plant.

Given the nature of the Metcalf Energy Center and its location in North Coyote Valley, Planning staff directed the applicant to file for a Planned Development Prezoning/Rezoning. In this way, the unique attributes of the project could be addressed in the Planned Development zoning and subsequent Planned Development Permit.

SITE LOCATION

The site is located on the west side of Monterey Road, at the southeasterly base of Tulare Hill. The site consists of approximately 20 acres of flat property in the North Coyote Valley bordered on the west and north by Fisher Creek, a tributary of Coyote Creek, and by the Union Pacific Railroad tracks that border the site to the east, paralleling Monterey Highway. The site currently contains an assortment of outbuildings used for refuse storage, cattle grazing, and miscellaneous agricultural purposes.

The land uses and features surrounding the site consist of:

- Tulare Hill (elevation 565 feet) to the north and west, a vacant hillside used for grazing and designated as Non-Urban Hillside, and outside the Urban Service Area on the Land Use/Transportation Diagram.

- Agricultural land to the south and an associated single-family residence approximately 1150 feet southeast of the site and designated on the Land Use/Transportation Diagram as Campus Industrial.

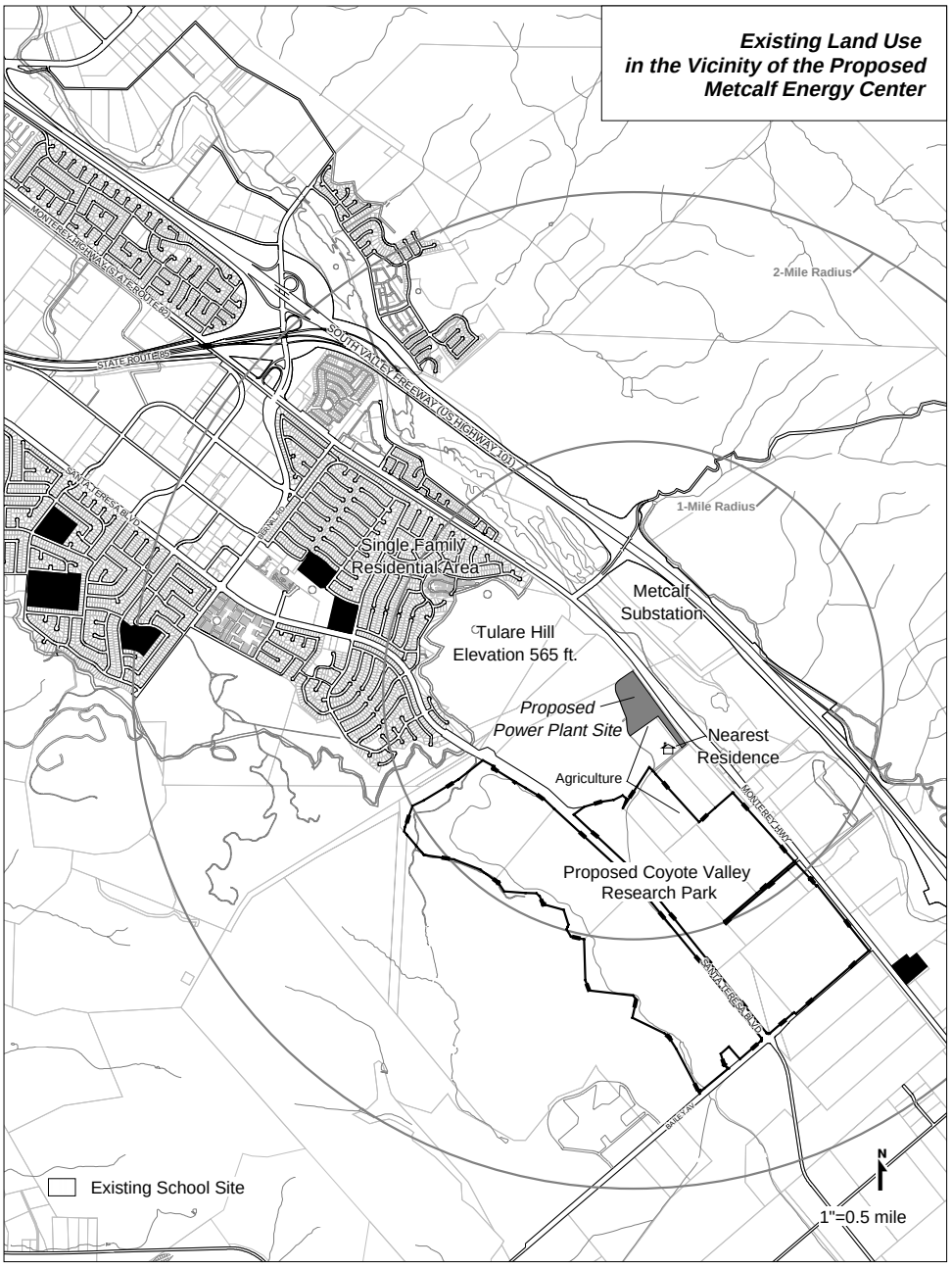
- Single-family residential uses approximately one-half to three-quarters of a mile to the northwest of the subject site, consisting of the southern portion of the Santa Teresa neighborhood.

- The Coyote Creek and associated County Park chain trail system approximately 1/2 mile to the east.

- A PG&E substation located approximately one-half mile to the east, on the opposite side of Monterey Highway and Coyote Creek.

- The Encinal Elementary School approximately 1.4 miles southeast of the subject site.

- The Coyote Valley Urban Reserve located primarily 2 miles south of the site and a portion located between Coyote Creek and Monterey Highway.



CALIFORNIA ENERGY COMMISSION

Given the multitude and complexity of the issues associated with a large power plant, State law designates the California Energy Commission as the lead agency responsible for permitting these types of projects. "*It is the California Energy Commission's mission to assess, advocate and act through public/private partnerships to improve energy systems that promote a strong economy and a healthy environment"* (CEC web site). The Governor nominates and the State Senate approves five people to act as full-time Energy Commissioners. They are appointed to staggered five-year terms of office. From the five members, the Governor also picks a Chairman and Vice Chair for two-year terms. Each of the appointees comes from a specific background: law, economics, environmental studies or sciences, engineering or science, and the public at large.

The Warren-Alquist State Energy Resources Conservation and Development Act ("Warren-Alquist Act") contains the statutes relating to power plant siting in California. Per these statutes, the California Energy Commission (CEC) is given the exclusive authority to certify power plant sites 50 megawatts or greater in California, whether a new site, or a change or addition to an existing facility. The Energy Commission concentrates on public health and safety, environmental impacts and engineering aspects of the proposed power project including all related facilities (transmission lines, water lines, natural gas pipelines, and other ancillary structures).

Under the Warren-Alquist Act, the approval of a power plant by the Energy Commission is in lieu of any permit, certificate, or similar document required by any State, local or regional agency, and supersedes any applicable statute, ordinance, or regulation of any State, local, or regional agency, or federal agency to the extent permitted by federal law. Although State law gives the CEC exclusive authority for power plant certification, Section 25525 of the Public Resources Code explains that a local jurisdiction's decision can be superceded by the State when a *"facility is required for public convenience and necessity and that there are not more prudent and feasible means of achieving such public convenience and necessity."*

This provision enables the CEC to certify a power plant in spite of noncompliance with local land use regulations in certain enumerated circumstances. Planning staff has learned from the CEC staff that the State has not certified a power plant that was in conflict with the zoning and General Plan of a local jurisdiction. While the CEC may override General Plan and zoning decisions, it cannot override annexation decisions.

Prior to the adoption of Senate Bill 110 on September 28, 1999, State law provided that the CEC could not license a new power plant unless the Commission determined it was "needed." The CEC is now no longer required by law to make a determination that the proposed project is needed. The Public Resources Code was modified to remove the requirement that the CEC make a specific finding that a proposed facility is in conformance with the adopted "Integrated Assessment of Need" (a CEC report that quantified the amount of electricity needed to sustain electric reliability). This finding of need conformance was determined to be no longer necessary as a result of the restructuring of the electricity industry with independent power producers

instead of public utilities now at risk of recovering power plant construction costs; however, the need for generation can apparently still be used as justification for a power plant's approval as the CEC staff has recommended approval of the Metcalf Energy Center based upon this need in spite of many local concerns.

MEC APPLICATION FOR CERTIFICATION STATUS

On April 30, 1999 the applicant filed an Application for Certification (AFC) with the California Energy Commission. The AFC was determined to be "data adequate" (i.e., the application was complete) on June 23, 1999 and this determination started the AFC review period. The process has been extended beyond the normal one-year period primarily because of modifications to the plant's design and the need for additional analysis.

On May 15, 2000, the CEC staff issued a Preliminary Staff Assessment. This document contained an environmental analysis of the project, identifying potential impacts and mitigation measures. This document was available to the public and was the subject of extensive public workshops. The CEC accepted comments on the Preliminary Staff Assessment (PSA) through June 30, 2000. City staff participated in some of these workshops and submitted comments on the document.

On October 10, 2000, the CEC staff released the Final Staff Assessment. This document responded to the public agency comments on the PSA, contained additional environmental analysis and conditions, and included a staff recommendation for the approval of the Metcalf Energy Center.

In winter 2001, evidentiary hearings are scheduled before a two-Commissioner committee (Presiding Members) at which time various issues are expected to be "litigated." The CEC is expected to issue the Presiding Members Proposed Decision in Winter/Spring 2001 after the consideration of the FSA and testimony and evidence submitted during the Evidentiary Hearings, including information regarding the actions of the City of San Jose.

THE ROLE OF THE CITY OF SAN JOSE

The role of the City of San Jose as the local jurisdiction is to determine if a particular site is appropriate for a power plant from a land use planning and regulation standpoint. This determination is made through a review of the project's compliance with applicable General Plan strategies, goals, and policies, and other applicable documents including the North Coyote Valley Campus Industrial Area Master Development Plan. As the project conforms to neither the General Plan (Campus Industrial) nor the existing City zoning district (A-Agriculture) for the property, the applicant has filed for a General Plan amendment as well as a Planned Development prezoning/rezoning to allow for the proposed use.
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ANALYSIS

COYOTE VALLEY PLANNING FRAMEWORK

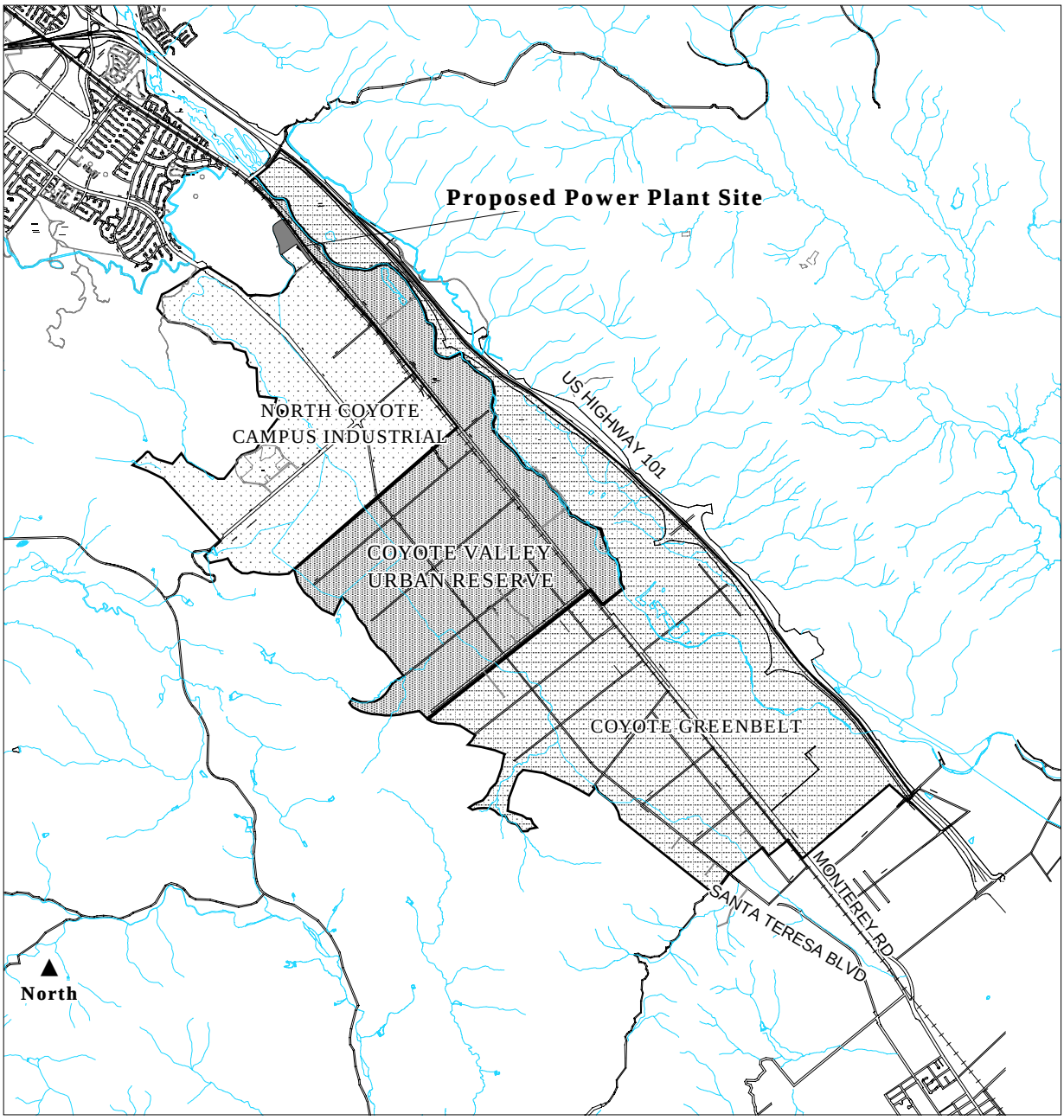
The Coyote Valley is not an appropriate location for a heavy industrial use such as a power plant. The proposed General Plan amendment represents an extreme departure from the long-held vision for the area that is portrayed in the *San Jose 2020 General Plan*, as discussed under Land Use Compatibility, General Plan Consistency, and other sections of this staff report. The development of the Coyote Valley is in its infancy and the construction of a massive power plant at the prominent northern gateway to the valley would set the wrong tone for the area's future development.

The Coyote Valley is the largest area of undeveloped land remaining within San Jose's Urban Service Area and the proposed power plant was clearly not what was envisioned for this area in either the General Plan or the North Coyote Valley Campus Industrial Area Master Development Plan. Coyote Valley has three major planning components (see map below):

- North Coyote Valley: Designated Campus Industrial in 1983, this 1,444-acre area is intended for economic development in the form of large campuses and corporate headquarters in a prestigious location with high quality building, landscaping, and other amenities.

- Coyote Valley Urban Reserve: Located predominately 2 miles south of the proposed Metcalf Energy Center, this area is planned for the future development of 20,000 to 25,000 housing units in a very urban, pedestrian and transit-oriented community after the satisfaction of specific criteria as set forth in the General Plan.

- Coyote Greenbelt: This area is intended to preserve the southern portion of Coyote Valley in open space and to establish a permanent, non-urban buffer between San Jose and Morgan Hill.


Proposed Power Plant Site
US HIGHWAY 101
NORTH COYOTE
CAMPUS INDUSTRIAL
COYOTE VALLEY
URBAN RESERVE
COYOTE GREENBELT
MONTEREY RD
SANTA TERESA BLVD
North

LAND USE COMPATIBILITY

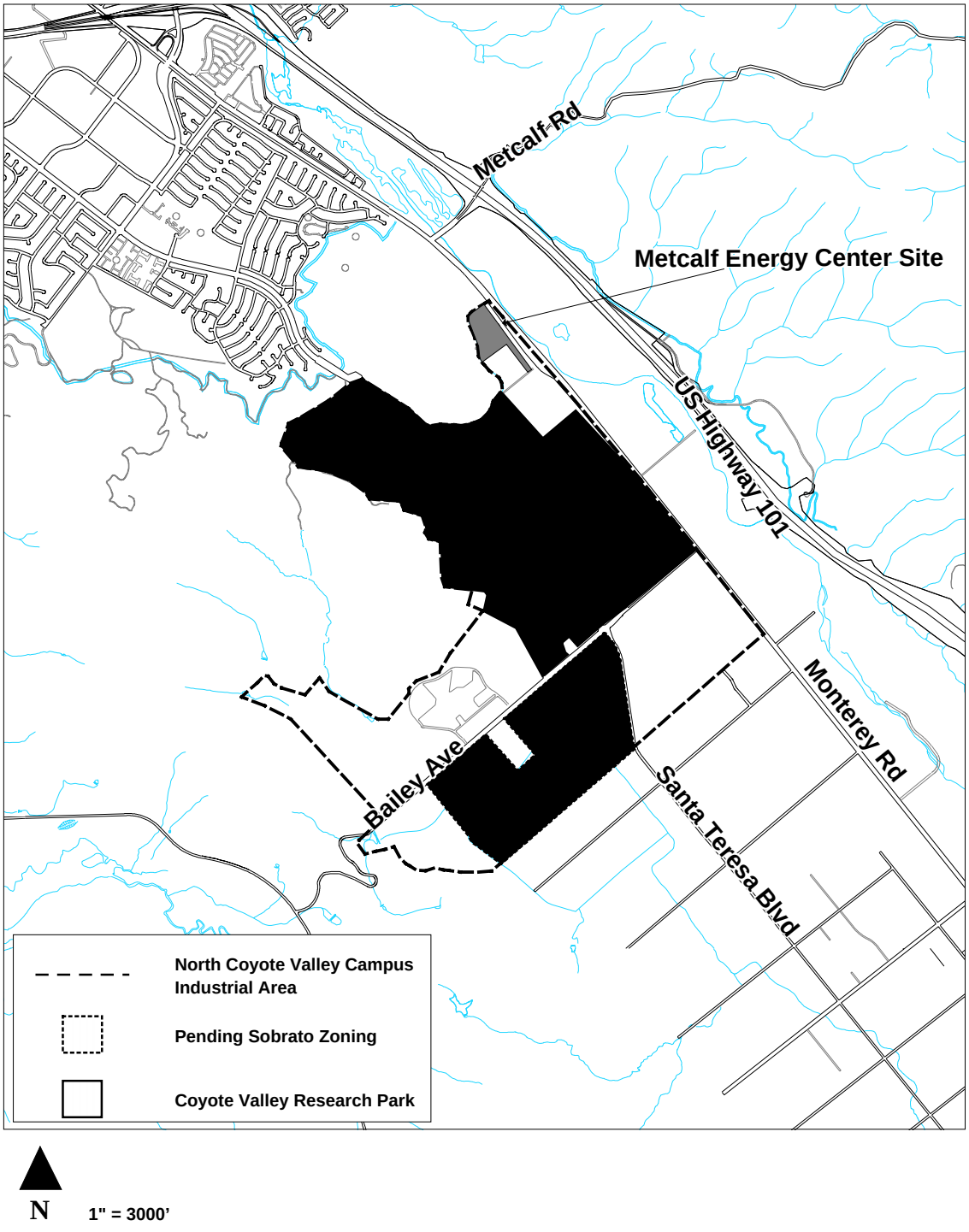
This section discusses land use compatibility issues associated with the proposed Metcalf Energy Center. Due to its proposed location in North Coyote Valley, the section focuses on specific compatibility issues in Coyote Valley. Other sections of this staff report, including General Plan Consistency and Environmental Issues, also raise compatibility concerns, not only for Coyote Valley but also for other nearby land uses such as the neighborhoods north of the subject site. **Staff believes that the proposed Metcalf Energy Center (MEC) is fundamentally incompatible with existing and planned land uses.**

Compatibility with the North Coyote Valley Campus Industrial Area

The subject site is located at one of the northern gateways to Coyote Valley, within the geographical defined limits of the North Coyote Valley Campus Industrial Area. The Campus Industrial designation is one the most restrictive of all of the industrial General Plan designations and it takes into account the Coyote Valley's unique environmental setting. The intent of the designation is the creation of a cohesive industrial area in which companies can develop large campuses and corporate headquarters. Industrial development is intended to occur on large parcels that incorporate substantial amounts of landscaped and natural open spaces with buildings of high design quality.

In North Coyote Valley, development should be sensitive to the area's environmental features such as hills, views, existing trees, and agricultural history. The Campus Industrial designation was modified as a part of the 1998 General Plan Annual Review to reduce the minimum parcel size from 20 acres to 10 acres for master planning purposes of individual sites.

According to the *North Coyote Valley Campus Industrial Area Master Development Plan*, the 1,444-acre North Coyote Valley has a development potential of 50,000 jobs and 16.7 million square feet. After many years, the interest in North Coyote Valley has begun anew. In October 2000, the City Council approved a major rezoning for the North Coyote Valley Research Park (CVRP)/Cisco Systems for property southeasterly of the proposed MEC site (File # PDCSH99-06-053). This rezoning allows up to 6.6 million square feet of campus industrial uses on approximately 688 acres. The CVRP project includes not only campus industrial uses but also employee services such as child day care facilities with associated outdoor activity areas.


Metcalf Rd
Metcalf Energy Center Site
US Highway 101
Monterey Rd
Bailey Ave
Santa Teresa Blvd
North Coyote Valley Campus Industrial Area
Pending Sobrato Zoning
Coyote Valley Research Park
N
1" = 3000'

The Coyote Valley Research Park project is expected to develop in multiple phases over several years. The site will be developed generally from south to north, eventually reaching a point to within approximately 1,000 feet of the proposed power plant. The first phase comprises approximately 1,300,000 square feet. Planning staff is concerned that the eventual build-out of the CVRP/Cisco project, as well as future campus industrial development, may be threatened by the location of the power plant in North Coyote. For example, companies may not be able to attract and retain employees to a Coyote Valley campus with the presence of a power plant due to concerns regarding air quality and hazardous materials.

Capine/Bechtel has argued that power plants can be good neighbors to high technology uses. By way of examples, the applicant points to the cogeneration facility adjacent to Cisco System's North San Jose campus and a cogeneration facility next to the Stanford Hospital. Both of these facilities are significantly smaller in scale in terms of generation capacity, as well as building mass and footprint, than the proposed Metcalf Energy Center (less than 50 megawatts versus 600 megawatts). Therefore, these smaller facilities are not comparable to MEC in North Coyote Valley adjacent to campus industrial uses.

In addition, the North San Jose cogeneration plant was built as part of the Agnews State Hospital campus. Unlike Coyote Valley, the small cogeneration plant was an established use when the State Hospital sold a portion of its campus for industrial park development. As neighbors, Planning staff understands that Calpine has responded to concerns of Cisco employees by changing the delivery of hazardous materials to weekends and keeping the facility tidy. Although a much smaller plant with different plume abatement technology, the North San Jose cogeneration facility does have a large, visible plume from its cooling towers particularly in cold and/or rainy weather.

As discussed under Consistency with the *North Coyote Valley Campus Industrial Area Master Development Plan*, the much larger Metcalf Energy Center, and its characteristics as a heavy industrial use, make it inherently incompatible with the intent of creating a high quality campus industrial environment in North Coyote Valley.

Visual Impacts

The Metcalf Energy Center would result in significant visual impacts as would any development in North Coyote Valley, as the visual landscape changes from an agricultural area to a built environment. In addition to this fact, there are two unique visual issues associated with the proposed Metcalf Energy Center: the very presence of a power plant in North Coyote Valley and the visible plume.

North Coyote Valley is planned as a world-class high technology park. The presence of a power plant would be inharmonious with a high quality, campus industrial environment because of the heavy industrial nature of the plant. The visual dissonance between the campus industrial buildings and power plant structures, regardless of architectural treatment, makes the MEC inherently incompatible with the planned campus industrial uses.

With respect to visual plumes, according to the Visual Resources section of the CEC's Final Staff Assessment (FSA), *"the proposed project would produce visible water vapor plumes from the cooling towers and* [heat recovery steam generator] *HRSG exhaust stacks under certain meteorological conditions*" (FSA, page 345). The FSA also indicates,

> *"If the Campus Industrial Area develops according to the master plan and guidelines, future views of plumes would be by high numbers of workers, visitors, and others with moderately high to high visual sensitivity…The plumes would be visible in a given year for at least 219 daytime hours from numerous locations; 438 daytime hours from residences along Blanchard Road and from Monterey Highway, trains, and other locations south and east of the power plant; and 438 nighttime hours from a variety of locations. Visible plumes would contribute substantially to people's impression that the facility is industrial."* (FSA, page 347)

In addition, the FSA contains computer simulations of the visual plumes. Figure 35 in the Visual Resources Section illustrates a simulation of a visual plume from the cooling towers which appears to extend to the top of Tulare Hill, if not beyond. Although the simulation estimates that this plume would be present 10% of nighttime hours, it may be possible for it to visible from the Santa Teresa neighborhood. Clearly, the presence of a visible plume is a strong indicator of incompatibility with prestigious campus industrial uses and goals in North Coyote and potentially, the established residential uses to the north of Tulare Hill.

In the FSA, the CEC staff propose a strict condition (VIS-10) requiring the power plant to operate such that there is no visible plume at any time from the HRSG stacks and that the plumes from the cooling towers should not exceed 20 feet above the top or 50 feet from any edge of the cooling towers at any time. Further, "*no cooling tower plume shall be visible for more than one hour during any 24-hour period"*, and *"cooling tower plumes shall not be visible for more than a total of 14 hours in any calendar year"* (FSA, page 386). If the power plant is certified, it is imperative that this condition be included in the certification, and enforced once the plant is operational.

Architecture

The proposed Metcalf Energy Center has a conceptual architectural design which attempts to screen the HRSG units to make them appear as office buildings. CEC staff supports this approach, arguing that this treatment will help the power plant fit into a campus industrial environment. We think this approach is well intentioned but not likely to be successful. We do not believe that such a facility can be truly disguised as an office building. If the power plant were approved, Planning staff would rather the design result in an interesting power plant rather than disguising it as another use. Calpine/Bechtel responded very favorably to this architectural approach and has expressed a willingness to work with the City to achieve these design objectives. Regardless of its architecture, the presence of the Metcalf Energy Center in North Coyote Valley would still result in land use incompatibilities due to the nature of the use as discussed above.

Compatibility with the Coyote Valley Urban Reserve

Although the planning and development of the Coyote Valley Urban Reserve is not officially anticipated to commence within the time frame of the *San Jose 2020 General Plan*, it should certainly be taken into consideration when evaluating the appropriateness of siting a power plant in the Coyote Valley. While the proposed site for the MEC is currently on the outskirts the developed portion of San Jose, it is more centrally located in relation to planned residential and industrial development in the *San Jose 2020 General Plan*. Therefore, many of the concerns raised in this staff report regarding the potential impacts to residents are germane not only for the existing neighborhoods north of the proposed power plant, but also for the Urban Reserve which is planned for 25,000 housing units and is located two miles south of the proposed power plant. The subject site in North Coyote Valley is not appropriate for a heavy industrial use, as it may also adversely affect the eventual development of the Coyote Valley Urban Reserve as a new planned community.

GENERAL PLAN POLICY CONSISTENCY

While the Public/Quasi-Public designation was determined to be the most appropriate General Plan designation for a power plant, the use itself is clearly characteristic of a heavy industrial use given its associated emissions, visible plume and use of hazardous materials. The following is a discussion of the most relevant General Plan Strategies, Goals and Policies.

Economic Development Major Strategy

The General Plan contains Major Strategies, which establish the basic framework for planning in San Jose. One of these strategies is Economic Development. The appropriate development of the North Coyote Valley Campus Industrial area is critical to the future economic development of the City. Development of a campus industrial nature in Coyote Valley has long been planned to create jobs within San Jose's housing rich community. Such jobs would also bring revenue to pay for services such as police, fire, libraries, and parks.

The *North Coyote Valley Master Development Plan* distributes the planned jobs in North Coyote amongst the various property owners based on their share of acreage relative to the total 1,444 acres. The proposed project occupies two parcels (Assessor's Parcel Number 708-29-003 and 708-23-002) with an allotment of 504 jobs and a 4-acre portion of an 18-acre parcel (APN 708-23-003) that has an allotment of 635 jobs. Therefore, it is anticipated that the subject site has the potential to be developed with campus industrial development with approximately 650 jobs. In contrast, the proposed power plant would employ only 20 workers.

In addition to the loss of jobs, a massive power plant at this prominent location in North Coyote Valley would set the wrong tone for the area's future development. The size of the proposed power plant would severely influence North Coyote Valley's character and render it less attractive as an area for companies to establish large industrial campuses and corporate headquarters as currently envisioned in the *San Jose 2020 General Plan*. This is due to concerns

regarding local air quality and potential public health impacts. A heavy industrial use such as a power plant is an extreme departure from the campus industrial use for which the site has long been intended. The project is therefore inconsistent with the Economic Development Major Strategy, as it would interfere with the attainment of the long-held vision for development in the North Coyote Valley as a major component of the City's economic development future.

According to the CEC's Final Staff Assessment, the Metcalf Energy Center project would have a relatively small but positive financial impact on the San Jose area. These economic benefits can be potentially achieved at another location that is in less conflict with the *San Jose 2020 General Plan*.

Urban Design Policies Regarding Building Height

The General Plan Urban Design Policies establish a maximum height of 95 feet for Public/Quasi-Public uses. The proposed project generally complies with the intent of this requirement with the exception of the two heat recovery steam generator (HRSG) stacks that are 145 feet in height. Exceptions to the height policies are allowed when the increased height is determined to be intrinsic to the function of the use. In this case, the increased height is necessary for the purpose of dispersing the power plant's emissions. The increased height is intrinsic to the function of the power plant. Therefore, the Metcalf Energy Center is compatible with the General Plan height policies.

While not inconsistent with the General Plan in this regard, the CEC staff indicated in the Final Staff Assessment, "*The power plant structures would be taller and more massive than the design guidelines specify for development of the Campus Industrial Area. Because of this, the power plant would be more noticeable than other structures developed as part of the research park*" (FSA, page 349). The General Plan establishes a maximum height of 120 feet for Campus Industrial uses in the North Coyote Valley. As a result of the increased height and industrial nature of the power plant, the project would certainly stand out, even after the eventual build out of the North Coyote Campus Industrial Area.

Project Access and the Transportation of Hazardous Materials

Existing access to the site from Monterey Highway and across the Union Pacific Railroad tracks is from Blanchard Road (a private street). Planning Staff, the Department of Public Works, and the Fire Department staff are in agreement that the Blanchard Road crossing over the railroad tracks needs to be improved prior to the start of the construction of the power plant were it to be approved. Once operational, the plant should take its primary access from a dedicated public street connecting the south end of the subject site with the planned roadway system for North Coyote Valley (see conceptual site plan and memoranda from the Public Works Department). The Blanchard Road crossing would then be used for emergency access only. In the FSA, the CEC staff supported this approach to the site's access. This is a project requirement.

Aqueous ammonia is a hazardous material that is required as part of the emissions control system for the proposed MEC. The delivery of aqueous ammonia would occur on a regular basis, approximately 2 times a week. Although not as hazardous as other materials, the FSA notes that *"aqueous ammonia poses the predominant risk associated with hazardous materials transportation and use at the proposed facility"* (page 156). The FSA contains conditions to reduce the risk of a transportation accident. The best mechanism to reduce risk is to ensure that the aqueous ammonia trucks are not accessing the site via Blanchard Road across the railroad tracks. This is important because the tracks are expected to experience increased rail traffic over time beyond their current use by CalTrain, Amtrak, and Union Pacific Railroad freight operations. Compliance with the City's Hazardous Materials Ordinance is another means for the proposed MEC to meet the General Plan's Hazardous Materials Goal of protecting residents from the risks inherent in the transport, distribution, use, and storage of hazardous materials. If the zoning is approved with the requirement for a new dedicated, public street serving the site and related conditions regarding the transport and handling of hazardous materials, then this aspect of the project would be consistent with the General Plan.

Scenic Routes and Trails

The subject site is visible from several corridors identified on the General Plan's Scenic Routes and Trails Diagram. These corridors include the existing Coyote Creek trail, the planned Fisher Creek trail, and Highway 101 (a designated Rural Scenic Corridor south of Metcalf Road). Even with high quality architectural design and landscaping, the proposed power plant would still reduce the recreational experience of pedestrians and cyclists along Fisher Creek and Coyote Creek primarily due to noise and visual impacts, including the possibility of a plume under cold weather conditions. Therefore, the proposed project is not consistent with Trails and Pathways Policy #1 which requires the City to control land development along designated Trails and Pathways to *"ensure that new development adjacent to the corridors does not compromise safe trail access nor detract from the scenic and aesthetic qualities of the corridor."*

In a letter to the California Energy Commission dated June 30, 2000, the County of Santa Clara Parks and Recreation Department indicated concern about the adverse impacts of the MEC on Coyote Ranch (a recreation area) and the Coyote Creek trails. Along Fisher Creek, trail users would also be subject to the noise of the plant (see discussion under Consistency with the Riparian Corridor Policy).

CONSISTENCY WITH THE *NORTH COYOTE VALLEY CAMPUS INDUSTRIAL AREA MASTER DEVELOPMENT PLAN*

The General Plan indicates that all Planned Development Zonings and Permits need to be consistent with the *North Coyote Valley Campus Industrial Master Development Plan.* Originally adopted by the City Council in 1985 and recently updated in 2000, the *Master Development Plan* contains a level of specificity beyond the General Plan by delineating the vision for North Coyote Valley, guidelines for public and private improvements, and

environmental performance standards. These guidelines are more specific than the City's *Industrial Design Guidelines* applicable to other industrial areas in San Jose.

Calpine/Bechtel has questioned the applicability of the *North Coyote Valley Campus Industrial Area Master Development Plan* for the proposed Metcalf Energy Center. Planning staff has explained to the applicant that these standards, which are appropriate for Campus Industrial development, should be considered as minimum standards for a heavy industrial use such as a power plant. For example, the setbacks contained in the Private Development Standards section of the *Master Development Plan* should be considered minimums in order to provide proper separation from incongruent uses.

The project is inconsistent with several aspects of the *Master Development Plan* (*MDP*) in terms of use, setbacks, and air quality emission standards. As discussed under Land Use Compatibility, the Metcalf Energy Center does not conform to creation of a high quality campus industrial area because of the plant's heavy industrial character. The development standards contained in the proposed Planned Development Zoning are less than those specified in the Private Improvement Guidelines of the *MDP*. For example, these guidelines specify a minimum of 50-foot wide landscape area be provided between proposed structures and the Union Pacific Railroad right-of-way. The project proposes a 32-foot building setback and a 42-foot setback for the plant's 145-foot tall stacks from the easterly property line. The *MDP* also indicates that a 100-foot setback area should be provided adjacent to neighboring campus industrial uses. The project proposes a setback of 70-feet adjacent to the currently vacant campus industrially designated property to the south. The setbacks are important to ensure an adequate buffer between the power plant and planned, neighboring campus industrial uses. The smaller setback to the south could inhibit future campus industrial development.

The *MDP* includes Environmental Performance Standards for air quality that require "n*o manufacturing operation shall be permitted which produces odors, fumes, smoke or other air-borne pollutants detectable, without instruments, at the property lines of the subject parcel or which produces any dangerous emissions."* The Metcalf Energy Center does not conform to this standard as a result of the documented emissions of criteria and toxic pollutants as well as the visible plume, as discussed under the Air Quality and Visual Impacts sections of this staff report. This standard is important in order to maintain compatibility with future campus industrial uses. By not meeting this standard, the Metcalf Energy Center may inhibit the realization of development in North Coyote Valley.

CONSISTENCY WITH THE RIPARIAN CORRIDOR POLICY

The Riparian Corridor Policy establishes guidelines to protect biotic resource values when development occurs near riparian corridors. The proposed power plant site is bounded on the north and west by the Fisher Creek and therefore the Riparian Corridor policy is applicable to the project. Much of the riparian corridor of Fisher Creek at the subject site is in marginal condition. Calpine/Bechtel redesigned the Metcalf Energy Center to place all buildings outside of the

required 100-foot riparian corridor setback area, and no riparian vegetation is proposed for removal. In this respect, the project conforms to the Riparian Corridor Policy.

The Riparian Corridor Policy also seeks to protect corridors from construction and noise impacts. During construction, the applicant is proposing to locate a temporary 75-foot construction area within the setback area but outside the riparian corridor. To facilitate construction, eleven non-riparian trees would be removed from the setback area. Even though the construction area is planned to be restored after construction, Planning staff is concerned about the loss of these trees and the other potential impacts of construction.

In addition, the applicant intends to keep a ten-foot strip adjacent to the perimeter fence and within the 100-foot setback clear of vegetation through the application of herbicides which are safe to wildlife and water resources. While a small clear zone adjacent to the fence is appropriate, staff is concerned about that the proposed width is contrary to the intent of the riparian corridor policy in that the setback area is intended to primarily be vegetated.

Noise

While the Metcalf Energy Center would comply with the noise standards contained in the San Jose General Plan for industrial uses, the project does not conform to the Riparian Corridor Policy Guideline 2F regarding noise. The policy indicates that the operation of mechanical equipment within or adjacent to riparian corridors should not exceed noise levels for open space as specified in the Noise Element of the City of San Jose's General Plan or exceed background noise levels.

In the FSA, the CEC reported that the plant's operational noise in the riparian corridor would be 55 to 60 dBA. Noise levels of 60 dBA would exceed ambient levels by as much as 18 dBA during early morning hours (1:00 to 4:00 am). Operational noise would not exceed the mean ambient nighttime (10:00 p.m. to 7:00 a.m.) noise levels of 57 and 55 dBA recorded over two nights or the mean ambient daytime level of 58 dBA. CEC staff concluded that these noise levels would not exceed levels that can result in adverse effects on animal hearing or other adverse physiological effects, and therefore, there was no significant impact (FSA, page 486). In any event, the periods of the day in which the noise level exceeds the ambient level represents an inconsistency with the Riparian Corridor Policy .

Lighting

The Riparian Corridor Policy requires projects adjacent to riparian corridors to minimize potential impacts to wildlife by reducing light and glare into the corridor. The FSA contains a condition which requires all lights to be shielded and prohibits bulbs and reflectors to be visible from the riparian corridor (FSA, VIS-3 Condition, page 378). Planning staff agrees with this condition as it not only implements the Riparian Corridor Policy but also the City's Lighting Policy.

ENVIRONMENTAL ISSUES

Local Air Quality

The proposed power plant would be a major stationary source of emissions and has the potential to have significant regional and local air quality impacts. The applicant has proposed the purchase of Emission Reduction Credits to offset or mitigate the identified potentially significant air quality impacts of the project. **Given the location, quantity and type of emission reduction credits that are to be purchased, there is an unacceptable level of uncertainty as to the effectiveness of utilizing Emission Reduction Credits to effectively mitigate the local air quality impacts of the project.** This is discussed in more detail below.

Project Emissions

The Air Quality Goal of the General Plan is to "*maintain acceptable levels of air quality for the residents of San Jose and minimize the air pollution produced by new development"*. The impact of the emissions from the proposed Metcalf Energy Center on air quality is of particular concern given the plant's location within a mile of an established residential neighborhood and the North Coyote Valley, as well as the site's environmentally sensitive location adjacent to the serpentine habitat on Tulare Hill.

The California Air Resources Board document Guidance for Power Plant Siting and Best Available Technology (September 1999) indicates that *"despite the benefit of lower emission concentrations, the merchant operation and the large size of the combustion turbines is expected to result in substantial emissions. The new power plants will operate in the competitive market with more equipment startups and shutdowns and will operate at various loads. Equipment startups and shutdowns will account for a greater proportion of emissions from these new plants, than traditional plants.*" The quantity of emissions, particularly toxic emissions, can be greater from a power plant that operates more frequently at reduced operating levels. Additional concerns exist regarding the plant's potential to exacerbate existing air quality problems as the Bay Area air basin is currently in violation of Federal and State ozone standards and State standards for particulate matter (PM_{10}). A power plant is considered a major stationary source of pollutants and thus the impacts are more concentrated than the air quality impacts from a campus industrial development in which the associated emissions are dispersed throughout an area.

The CEC and the Bay Area Air Quality Management District analyzed the air quality impacts of the proposed power plant. The Bay Area Air Quality Management District (BAAQMD) has been delegated authority by the United States Environmental Protection Agency (EPA) to implement and enforce federal requirements, including the New Source Performance standards and the Prevention of Significant Deterioration program. The BAAQMD determines the project's compliance with applicable federal, State and BAAQMD regulations in addition to estimating the project's impact on public health. In the *Final Determination of Compliance* (FDOC) issued on August 24, 2000, the BAAQMD concluded that the proposed Metcalf Energy Center complies with all applicable District rules and regulations. Although the BAAQMD is not

required to identify violations of the State PM_{10} standards, the proposed project will exacerbate an existing violation of the State 24-hour standard.

The table below indicates the total emissions of criteria pollutants from the proposed power plant. These air pollutants are identified in the 1970 Clean Air Act Amendments deemed to be critical to controlling air pollution and for which National Ambient Air Quality Standards (NAAQS) were established. Criteria pollutants of concern for the power plant include, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), precursor organic compounds (POCs), and particulate matter (PM_{10}).

Pollutant	**Total Facility Emissions (tons/year)**
Nitrogen Oxides (NOx)	**124**
Carbon Monoxide (CO)	**588.5**
Precursor Organic Compounds	28.2
Particulate Matter (PM_{10})	91.29
Sulfur Dioxide	10.58

According to the Bay Area Air Quality Management District's Final Determination of Compliance, the project's emissions would exceed the significant ambient impact levels for 1-hour NO_2, 8-hour CO, 24-hour PM_{10}, and annual-averaged PM_{10} (FDOC, Table E-3). As a result further analysis was required to determine if any of the project's emissions were in excess of California and national standards for these pollutants. The results are summarized in the table below. BAAQMD concluded that the National and California ambient NO_2, CO, and National PM_{10} standards are not exceeded by the proposed project.

Pollutant	Maximum Project Impact plus Maximum Background (ug/m^3)	California Standards	National Standards
NO_2 1-hour	433	470	-
CO 8-hour	8716	10,000	10,000
PM_{10} 24-hour	**123**	50	150
PM_{10} Annual Average	27	30	50

Because ozone is a secondary pollutant, formed by a combination of NOx and VOC, the project's contribution to Ozone formation cannot be precisely modeled. As indicated in the table above, the project will further exacerbate the areas current non-attainment status for the PM_{10} State 24-hour standard.

Ozone

One of the major concerns regarding the air quality impacts of a natural gas fired power plant is the emission of nitrogen oxides (NOx). NOx in combination with volatile organic compounds (VOC) form ozone in the presence of sunlight. The highest concentrations of Ozone occur during the summer months. According to a 1997 Environmental Protection Agency report entitled Ozone: Good Up High, Bad Nearby,

> *"Repeated exposure to ozone pollution may cause permanent damage to the lungs. Even when ozone is present in low levels, inhaling it triggers a variety of health problems including chest pains, coughing, nausea, throat irritation, and congestion. It also can worsen bronchitis, heart disease, emphysema, and asthma, and reduce lung capacity. Ground-level ozone damages plant life and is responsible for 500 million dollars in reduced crop production in the United States each year. It interferes with the ability of plants to produce and store food, making them more susceptible to disease, insects, other pollutants, and harsh weather. 'Bad' ozone damages the foliage of trees and other plants, ruining the landscape of cities, national parks and forests, and recreation areas.*

The creation of ozone is a regional concern in that it is generally formed miles away from the source of emissions.

Particulate Matter (PM_{10})

The power plant's emission of particulate matter is also a serious concern. According to the EPA, *"when particulate matter is breathed in, it can irritate and damage the lungs, causing breathing problems. People who have asthma or some type of lung or heart disease are directly impacted by high levels of PM. The elderly and children are also especially vulnerable to the effects of PM. Many studies have shown links between PM and health effects. Increases in PM have been linked to decreases in lung function, increases in breathing problems and hospitalization, and early death."* (EPA Website) This is considered a local pollutant, as the highest concentrations of PM_{10} emissions will be located within close proximity to the power plant.

The power plant's emissions of 91.29 tons of PM_{10} per year do not include secondary PM_{10} emissions that result from the plant's use of aqueous ammonia for the reduction of NOx emissions that could be avoided through the use of alternate technologies such as SCONOx. The plant is expected to emit 118 tons per year of ammonia.

Emission Offsets

The applicant is required as a part of the BAAQMD New Source Review program to provide offsets for pollutants in excess of pre-established limits. Since the project will result in nitrogen oxides (NOx) and precursor organic compounds (POC) emissions in excess of the BAAQMD's 50 tons per year thresholds, the applicant is required to purchase valid emission reduction credits (ERCs) to mitigate these emissions. While the plant's emissions are below the 100 ton per year

(tpy) threshold for PM_{10}, (98.6 tpy), the CEC has required that offsets be provided. It is with the use of these offsets, that BAAQMD concluded that project is expected to result in an actual net improvement to the regional air quality and that the potentially significant environmental impacts would be mitigated.

Planning staff remains concerned regarding the local versus the regional air quality impacts of the project. Planning staff is not confident that the project's potentially significant air quality impacts will be adequately mitigated. The concerns are as follows:

1) Only a portion of the plant's substantial emissions are proposed to be mitigated with the purchase of emission reduction credits (ERC).

2) A good portion of the emissions is only being indirectly mitigated utilizing the EPA discouraged practice of interpollutant trading. There is an unacceptable level of uncertainty regarding the effectiveness of purchasing offsets for different but related emissions from a site many miles away to offset the local impacts of a major stationary source of pollutants such as a power plant.

3) No modeling (i.e., Demonstration of Net Benefit) was performed to verify the effectiveness of the proposed purchase of Emission Reduction Credits for mitigating the potentially significant environmental impacts of the project.

According the FSA, the proposed power plant will emit a total of 1072 tons of criteria air pollutants during the first year of operation and 841 tons per year during subsequent years. Only 304.3 tons per year of the plant's emissions are proposed to be mitigated through the purchase of offsets. The CEC staff has determined that the applicant must purchase emission reduction credits for the emissions identified in the table below.

Pollutant	**Emissions (tpy)**	**Offset Ratio**	**Required Offsets**	**NOx Offsets**	**VOC Offsets**	**PM_{10} Offsets**
NOx	185	1.15 to 1	212.75	46.47	166.28	
VOC	28	1 to 1	28		28	
PM_{10}	91.3	1 to 1 & 2 to 1 (indirect) *	91.3		124.2*	29.21
Totals	**304.3**	----------	**332.05**	**46.47**	**318.48**	**29.21**

*62.09 PM_{10} emissions offset at 2 to 1 ratio with 124.2 VOC Emission Reduction Credits.

No mitigation is proposed for the plant's carbon monoxide (CO) emissions of 588 tons per year that could apparently be substantially reduced through the use of an oxidation catalyst that is

typically used on similar power plants. In addition, no mitigation will be provided for the power plant's 118.6 tons of ammonia slip that could be potentially eliminated through the use of an alternative emission control technology known as SCONOx. In light of these and other omissions, Planning staff is concerned that the purchase of offsets for only selected pollutants would not fully mitigate the facility's emissions.

The CEC staff has proposed that the applicant mitigate the potentially significant air quality impacts of the project through the purchase of emission reduction credits from locations in North San Jose and Mountain View. It is not evident to Planning staff how the use of offsets purchased from these admittedly upwind but distant locations can effectively mitigate the immediate local air quality impacts of the Metcalf Energy Center. PM_{10} is a pollutant of local concern as its concentrations are highest in close proximity to the source of emissions. (BAAQMD, FDOC, Figure E-1). As a result of the 91.3 tons per year of PM_{10} from the project, existing unhealthy levels of PM_{10} will be exacerbated in the vicinity of the Metcalf Energy Center.

Interpollutant Offset Trading

Only 46.47 tons per year of the projects NOx emissions will be directly offset with the purchase of Emission Reduction Credits for NOx. The remaining NOx offsets would come from the purchase of VOC ERC's using the method known as interpollutant trading. The main source of the Emission Reduction Credits for VOC would come from emissions retired from a printing company located in North San Jose, approximately 14 miles from the proposed power plant site.

In a letter from the EPA to the BAAQMD regarding the Delta Energy Center, "*EPA discourages any interpollutant trading due to the scientific uncertainty of acceptable pollutant trading ratios*" (9/23/99 letter from Matt Haber, EPA to Ellen Garvey, BAAQMD). For the Metcalf Energy Center, the EPA indicated in a May 31, 2000 letter to the BAAQMD that "*since NOx deposition has a clear impact on endangered species, we believe that Metcalf should consider obtaining local NOx offsets as additional mitigation rather than obtaining additional VOC offsets."* This is because the effectiveness of the trades depends on the offset ratio, specific types of pollutants, and local meteorological conditions.

Planning staff is concerned that no modeling was performed to demonstrate that the proposed emission offsets would actually result in a net air quality benefit as they are intended. As the proposed offsets are the basis for the CEC's determination that the potentially significant environmental impacts of the project have been fully mitigated, a demonstration of net air quality benefit should be performed. Without this verification, it is Planning staff's position that there is an unacceptable level of uncertainty as to whether the project would have significant air quality impacts. It is particularly important that a net air quality benefit be verified given the Bay Area's non-attainment status for ozone and PM_{10} and the site's close proximity to a residential area.

If modeling indicates that the proposed offsets would not result in a net air quality benefit, more innovative measures should be pursued such as the use of mobile offsets, similar to what is being

required of the proposed Otay Mesa Generating Project in San Diego County. The following is an excerpt from a PG&E press release on the Otay Mesa project dated October 6, 2000:

> *"This is the first time that emission reductions from mobile sources have been used to offset emissions from a major new stationary source. The companies (PG&E Generation & Waste Management) plan to replace 120 diesel-fueled refuse collection trucks with new Mack trucks fueled by clean-burning natural gas. As a result, air emissions will be reduced by more than 50 percent. The air emission credits gained through the reductions will be used by the PG&E National Energy Group (PG&E NEG) to offset emissions from the Otay Mesa Generating Project, a proposed 500-megawatt plant to be built outside of San Diego".*

The mitigation of the potentially significant air quality impacts is a critical issue given the site's proximity to a residential

Best Available Control Technology (BACT)

The Bay Area Air Quality Management District's New Source Review Rule, Regulation 2, Rule 2, and the District's Air Toxic Risk Management Policy require that new or modified sources of air pollutants undergo permit review for Best Available Control Technology (BACT) when certain emission thresholds are exceeded.

The following is a summary of BACT for various criteria pollutants

NOx	2.5 ppmvd (1 hr) or 2.0 ppmvd (3 hr)
CO	10 ppmvd (3 hr)
VOC	2 ppmvd
PM_{10}	Exclusive use of natural gas
SOx	Exclusive use of natural gas

Source: BAAQMD, FDOC, August 24, 2000.

There is a disagreement between the California Air Resources Board and the BAAQMD as to what constitutes BACT for Carbon Monoxide. The applicant is being required to attain BACT limits of 10 parts per million (PPM) instead of 6 PPM as indicated as BACT in the California Air Resources Board BACT guidelines. The applicant is not proposing the use of an oxidation catalyst that has been proven effective at reducing CO and POC emissions. The CEC in the Preliminary Staff Assessment indicated that an oxidation catalyst should be required but later eliminated this requirement in their Final Staff Assessment. Given the local nature of CO concentration, it is the Planning staff's position that the applicant should be required to take every feasible measure to reduce CO emissions to levels consistent with EPA and California Air Resources Board guidance.

The applicant's choice of Selective Catalytic Reduction (SCR) technology for the control of nitrous oxides (NOx) has been questioned in light of the existence of potentially more environmentally beneficial measures such as SCONOx. The CEC in the Preliminary Staff Assessment indicated *"SCONOx technology has a lot of environmental benefits such as: a) reduces and guarantees NOx emissions to less than 2.0 ppmvd averaging over three hours and can achieve 1 ppmvd averaged over 15 minutes as demonstrated in the Federal facility in Vermont and another facility in Massachusetts; b) reduces CO emissions to 6 ppmvd; c) limits VOC emissions to 1 ppmvd; and d) this technology eliminates the ammonia slip and reduces the formation of secondary PM_{10}"* (CEC, PSA page 41). The California Environmental Protection Agency Air Resources Board in the Guidance for Power Plant Siting and Best Available Control Technology (September 1999) document verified that the SCONOx system demonstrated emissions of 2.0 ppmvd NOx at 15 percent oxygen over a 3-hour average with the added benefit of zero ammonia emissions. The use of SCONOx at the proposed power plant would result in a reduction of ammonia emissions of 118.6 tons per year and avoid the need for the transportation, storage and handling of large quantities of aqueous ammonia at the power plant.

The applicant was required by BAAQMD to prepare an analysis that evaluated the use of SCONOx technology as an alternative to Selective Catalytic Reduction. BAAQMD concluded that both SCR and SCONOx can achieve BACT/LAER (lowest available emission rate) specifications for NOx of 2.5 PPM and therefore the applicant's choice of SCR was deemed acceptable. The use of SCONOx may not be required of this particular power plant, however, the fact that it is not being proposed casts doubt on the characterization of the power plant as "state of the art."

It is the applicant's position that the proposed power plant would improve air quality by eventually replacing less efficient power plants that will not be able to compete in the deregulated electricity market. Given that there are relatively few existing power plants in the Bay Area, the air quality benefits to San Jose residents of a plant shutdown is not evident. Given the growing demands for electricity and the fact that electricity is distributed throughout California and the western United States, there is a lot of uncertainty regarding the location and timing of these older plants being replaced. There should be adequate incentive to improve the efficiency and emission levels of existing power plants in response to regulatory pressures and the pending market pricing of electricity. This would be the case with or without the construction of the MEC. The upgrade to the Moss Landing power plant is an example of a project that involves the retrofit of an existing power plant.

In spite of the Bay Area Air Quality Management District's determination that the proposed project complies with certain applicable air quality standards, it is not clear that the project would further the Air Quality Goal of the General Plan. **There is an unacceptable level of uncertainty as to whether the local air quality impacts of the project are being minimized to the fullest extent possible and being sufficiently mitigated to avoid potential significant air quality impacts**.

Public Health

The potential for public health impacts arises from the fact that the proposed power plant would emit toxic air contaminants which exceed risk-screening trigger levels established by the Air Management District's *Toxic Risk Management Policy*. A health risk assessment was therefore required of the applicant. The Air District reviewed the health risk assessment and determined that the increased carcinogenic risk attributed to this project is considered to be not significant. The risks from non-carcinogenic air contaminants were also considered to be not significant by the Air District.

This assessment would, on the face of it, seem to alleviate any concern about public health impacts of the project. A concern has been raised, however, as to whether the plant's emissions of toxic air contaminants have been adequately quantified for all operating conditions of the plant, including start ups. The Applicant is requesting operational flexibility that would permit the proposed plant to conduct a total of 416 start-up operations each year (FSA, page 38). The Air District's Final Determination of Compliance includes the results of source testing based on 75% operating load. At 75%, BAAQMD found that the emission rates for formaldehyde and benzene were not significant. Staff is unsure if an emissions test based on 75% operating capacity adequately represents true start up conditions after complete shut down.

Given that some of the toxic air contaminants are considered carcinogenic, and that the plant's proposed location is within one mile of an established residential area and adjacent to a future industrial campus, Planning staff believes that **there is too great a level of uncertainty regarding the potential public health effects of the project.** Prior to any decision to license the power plant, there should be adequate testing of toxic air emissions during start-up or low load conditions.

Biological Resources

The General Plan includes a Species of Concern Goal *to preserve habitat suitable for Species of Concern, including threatened and endangered species.* The CEC in the Biological Resources section of the Preliminary Staff Assessment concluded that emissions from the proposed power plant would result in a significant adverse impact to serpentine soils and associated federally listed endangered species. The habitat of the Bay Checkerspot butterfly on the adjacent Tulare Hill and the Coyote Ridge would be adversely affected as a result of fertilization of non-native plant species by atmospheric nitrogen disposition through the power plant's 124 tons per year of nitrogen dioxide emissions. Other serpentine endemic species that would be impacted by the proposed Metcalf Energy Center are the Opler's Longhorn Moth (Federal Species of Concern), Santa Clara Valley dudleya (Federally Endangered), and the Metcalf Canyon Jewel Flower (Federally Endangered).

The main component of the applicant's proposed mitigation is the purchase of 116 acres of Tulare Hill and its preservation as open space. Cattle grazing would be continued at a lesser intensity (one cow per 10 acres versus the current one cow per 3 acres) on the property in an

effort to control the growth of non-native plant species. In the Preliminary Staff Assessment, the CEC staff concluded that since the project would potentially impact 6,677 acres of the 9,538 acres of serpentine habitat remaining in Santa Clara County, that additional mitigation for the impact on habitat on the Coyote Ridge was necessary. The applicant is now being required by the CEC to obtain an additional 15 acres of serpentine habitat on Coyote Ridge to further mitigate the impacts of the project. As a result, the CEC in the Final Staff Assessment determined that the impacts of the project on serpentine endemics would be reduced to a less than significant level with these mitigation measures.

The proposed Metcalf Energy Center would remove 80 trees of which 53 trees are ordinance-sized (over 12 inches in diameter). The majority of the trees to be removed are Keesling Black Walnuts and Elderberry. While a campus industrial use on this site would also result in the removal of trees, there is typically more flexibility in the site design and configuration of a campus which may provide an opportunity to preserve more of the trees than the proposed Metcalf Energy Center. The applicant is proposing to mitigate the tree loss by replacing trees greater than 18 inches measured at diameter at breast height (DBH) at a ratio of 4 to 1, using 24-inch box trees; trees between 12 and 18 inches DBH at a ratio of 2 to 1, using 24-inch box trees; and trees less than 12 inches DBH at a ratio of 1 to 1, using 15-gallon trees. This mitigation is proposed as part of the Planned Development zoning.

Biological issues with respect to Fisher Creek and its riparian area are discussed under the section called Consistency with the Riparian Corridor Policy.

Water Resources

If the project obtains the required local land use entitlements, including annexation, then there are water resource issues associated with the operation of the Metcalf Energy Center. The applicant advises that the Metcalf Energy Center (MEC) requires 2.9 to 5.8 million gallons a day of recycled water for cooling purposes. The applicant also requests a back up water supply in the event the recycled water service is interrupted for maintenance or other reasons. City staff are concerned about the possible impact of the MEC on groundwater supplies in the Coyote Valley. General Plan Water Resources Policy #2 directs that *"water resources should be utilized in a manner which does not deplete the supply of surface or groundwater."*

According to the CEC's Final Staff Assessment, Section 13551 of the State Water Code prohibits the use of *"water from any source of quality suitable for potable domestic use for non-potable uses, including ...industrial…uses, if suitable recycled water is available"* (FSA, page 511). The proposed power plant is therefore required to utilize recycled water from the South Bay Water Recycling program for power plant cooling purposes. The anticipated usage is an average of 3.3 million gallons per day of recycled water. This would have the beneficial effect of diverting treated wastewater from discharge into San Francisco Bay.

The applicant proposes to serve the project with recycled water via a new approximately 50,000-foot long recycled water line. Given the need to periodically perform maintenance on the SBWR

system, the power plant will on occasion potentially use potable water instead of recycled water. In the FSA, the CEC staff is proposing a condition of certification that would limit the use of potable water for cooling purposes only in the event that SBWR recycled water service is interrupted, but not to exceed 45 days in any one year. The CEC staff in their Final Staff Assessment found that "*the operation of the MEC alone with its continual extraction for domestic and process water needs as well as occasional increased withdrawal for back-up supplies (no more than 45 days) will have a negligible impact on groundwater levels, outflows from Coyote Narrows, and Coyote and Fisher Creeks flows*" (FSA, page 528). **It is the City's position that the power plant must utilize recycled water for cooling purposes and that the recycled water line must be available prior to the commencement of the power plant's operation.** If the MEC does not use recycled water, then the project does not have sewer capacity. These are recommended conditions of the Planned Development zoning.

The site currently does not have water, storm, or sanitary sewer services. All of these would need to be in place prior to the operation of the Metcalf Energy Center. These requirements would be part of a Planned Development permit, which would be considered after the resolution of the General Plan amendment and rezoning applications.

Other outstanding issues remain regarding how the applicant will be required to mitigate for the impact of their wastewater discharge to the overall salinity of the SBWR system and whether the applicant will choose San Jose Municipal Water System or Great Oaks Water Company as the water supplier. See attached memo from the Environmental Services Department for additional information on these issues.

ENERGY SUPPLY ISSUES

Staff recognizes that electricity reliability is a critical issue to San Jose. Any power outage affects residents and businesses in San Jose. In particular even a short interruption in service can have serious, if not destructive, impacts on industry. For example, this concern has been expressed by the San Jose Silicon Valley Chamber of Commerce, arguing that there is an urgent need for the Metcalf Energy Center to prevent future blackouts. Power outages can occur for reasons other than a shortage of supply. In fact, most power outages are caused by weather-related events (Edison Electric Institute, May 2000).

While not experts, staff has reviewed public documents to understand the energy demand and the supply responses by the ISO, PG&E, the State of California and others. This is a highly technical and complex issue. Staff has distilled the major findings of the research in this section. In summary, staff has found that (1) there currently is a statewide energy reliability problem; (2) various State entities are responding by funding new transmission improvements and licensing new generation facilities; and (3) given this response, there is not a critical need for the Metcalf Energy Center that would warrant its siting inconsistent with San Jose's General Plan. In other words, **research indicates that the Metcalf Energy Center is not needed to prevent future blackouts in San Jose.**

Electricity Deregulation/Restructuring

This is the first of what may become numerous proposals to build power plant facilities in San Jose and surrounding communities. In the Final Staff Assessment, California Energy Commission staff indicated that *"because of electrical supply and reliability problems, if the proposed Metcalf project is not licensed and constructed, it is reasonably foreseeable that one or more other power plants with a total generating capacity similar to the proposed project would be constructed in the South Bay Area or Greater Bay Area in the near future*" (CEC FSA, Page 760)

Assembly Bill 1890, approved in 1996, deregulated the electricity industry. According the CEC, the following are the main components of the newly deregulated electricity system:

- An Independent System Operator (ISO) operates the transmission system and provides access to all buyers and sellers.

- A Power Exchange (PX) provides a bid-based spot market for power.

- Consumers choose who provides their power and who provides metering and billing services. Consumers have the ability to choose amongst different sources, including companies that utilize exclusively renewable energy sources.

- The current monopoly utility ownership of the transmission and distribution wires continues subject to ISO control of the transmission system.

- For some customer service activities (such as metering and billing), competition will be forthcoming.

The electricity system was restructured from a vertically organized system with the public utilities in control of generation, transmission and distribution to a horizontal system with different entities in charge of the various system components. The most important change was the opening up of power generation component to competition amongst various independent power producers. It was anticipated that deregulation for electricity would promote competition and benefit consumers by lowering the price. This has not occurred to date as electric rates have actually climbed substantially in the San Diego area. The local utility, San Diego Gas & Electric Company, was the first utility to have its rate freeze lifted in the fall of 1999. As a result, a temporary rate freeze was reinstated. PG&E has thus far been unable to pass on increased wholesale electricity costs to consumers as their rates have been frozen. PG&E is expected to have its rate freeze lifted within the next couple of years upon the sale of additional power generation facilities or upon the expiration of a limited transition period currently in effect that ends on March 31, 2002.

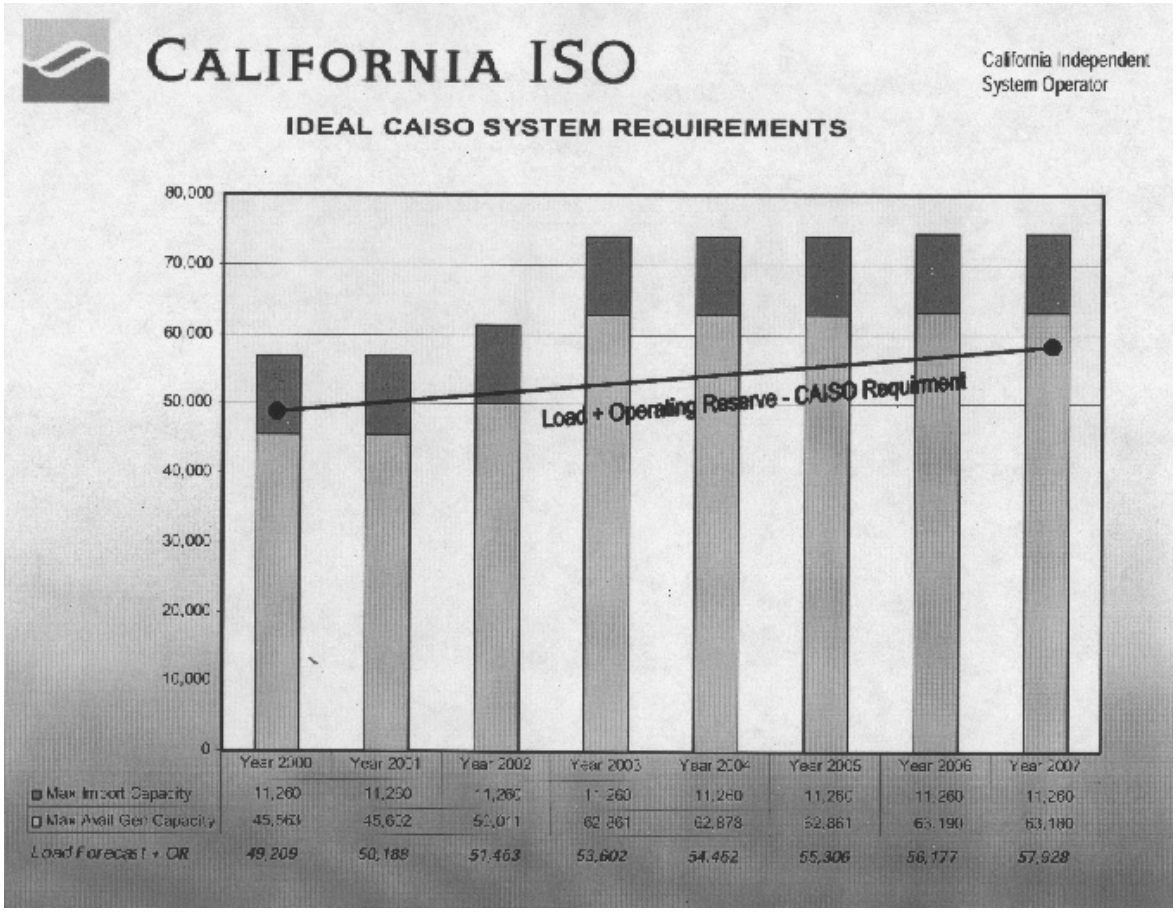
California Independent System Operator and the Public Exchange

The deregulation legislation resulted in the creation of two State-chartered, nonprofit institutions, the California Independent System Operator (ISO) and the Public Exchange (PX). Utilities were mandated by the legislation to release control, but not ownership, of their long-distance transmission lines to the ISO. The ISO has assumed computerized command of the long-distance, high-voltage power lines that deliver electricity throughout California. The separation of power generation ownership from power transmission and distribution ownership was considered a prerequisite for retail competition. In addition, the Power Exchange was established with the intent of providing an efficient, competitive auction open to all electricity providers. Upon full deregulation in 2002, the delivery service providers that purchase energy from the Power Exchange will be able to pass costs on to customers.

The California Independent System Operator issued numerous alerts during summer 2000 as part of their Electrical Emergency Plan to maintain the reliability of the electrical grid. A Stage One alert is issued when operating reserves fall below seven percent to advise the public of potential power shortages and to ask all customers to conserve electricity to ensure there will be enough power to meet demand. A Stage Two emergency is declared when reserves drop below five percent and large commercial customers that have signed up to voluntarily conserve power during high demand periods are asked to do so. A Stage Three emergency is initiated if an operating reserve of less than one and a half percent is unavoidable. A Stage Three emergency has never been issued.

On September 1, 2000, Terry M. Winter, the ISO's President and Chief Executive Officer wrote a letter to the Presiding Members of the California Energy Commission overseeing the Metcalf siting case requesting that the CEC *"expedite your consideration of the AFC for the Metcalf Energy Center."* The letter indicated, "*the ISO believes that the MEC will provide substantial reliability benefits to the San Jose area sufficient to offset the impacts the MEC opponents have identified."* He indicated *"we have projected an overall system deficiency of 3880 Mw for this year under hot summer conditions. The overall ISO system load is growing at a minimum of 2 to 3 percent (920 to 1380 Mw per year) adding to the projected deficiency. In high growth areas such as the Bay Area, the load growth is even higher (5 to 6 percent)."* He also indicated that "*without the Metcalf Energy Center, there will be a greater deficiency of 600 Mw starting in 2002."*

The letter makes no mention of the ISO's projected surplus of generation capacity in the State in 2003 and beyond that is exemplified in the following graph from the ISO's Resource Adequacy/Reliability Report dated February 8, 2000. Contrary to Mr. Winter's letter, the graph illustrates that there will be a surplus in generating capacity in 2003 and beyond <u>without</u> the proposed Metcalf Energy Center.



	Year 2000	Year 2001	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007
Max. Import Capability	11,260	11,260	11,260	11,260	11,260	11,260	11,260	11,260
Max. Avail. Gen. Capacity	45,563	45,602	50,011	62,861	62,878	62,861	63,190	63,180
Load + Operating Reserve	**49,209**	**50,188**	**51,463**	**53,602**	**54,462**	**55,306**	**56,177**	**57,928**

Power Demand and Supply ("Load and Resource Balance")

California Independent Systems Operators Projections indicate that in 2003, there should exist sufficient generating capacity in the ISO control area to accommodate growth in peak electricity demand (ISO Resource Adequacy/Reliability Report, February 8, 2000). 2003 is the expected completion date of the Metcalf Energy Center. This includes new power plants under construction and recently licensed upgrades to existing plants in northern California. In the mean time, ISO and PG&E are addressing anticipated potential peak period shortages through various planned and funded transmission system projects. According to the CEC's Final Staff Assessment, "*if the planned transmission projects are in service by 2001, the most likely cause of rolling blackouts in the San Jose area is likely to be a Statewide shortage of generation rather than a transmission related deficiency in the San Jose area or the larger Bay Area. The benefit of the Metcalf Energy Center in reducing the potential for rolling blackouts would primarily come from reducing the overall Statewide shortage of power and thus MEC would reduce the potential for rolling blackouts Statewide, including the San Jose Area"* (FSA, Alternatives, page 763.). In other words, a locally sited power plant is not necessary to reduce rolling blackouts in San Jose. **As the Metcalf Energy Center would not be operational until 2003, it is not a solution to the anticipated peak period shortfalls in 2001.**

On a typical day, the California ISO system has adequate generating capacity to meet the energy needs of the State. For example on October 24, 2000, the ISO's forecasted peak demand was 31,441 Megawatts. The ISO-controlled grid has internal generating capacity of 43,740 Mw and an import capability of an additional 7,500 Mw (ISO Resource Adequacy/Reliability Report, February 8, 2000). There is adequate electricity to serve the needs of California and the Bay Area for most of the time. On June 14, 2000 when blackouts occurred, the demand for electricity in California was 43,630 megawatts. (June 14, 2000 ISO news release).

On June 14, 2000, the ISO issued a Stage One emergency when temperatures in San Jose reached 109 degrees, the hottest day in recorded weather history and power outages occurred in the Bay Area as a result. On June 15, 2000, Governor Gray Davis called for an investigation into the circumstances, including the generation maintenance and transmission problems, that led to interruptions in the supply of electricity to consumers in the Bay Area. The PUC concluded in an August 2000 report to the Governor that many factors (including transmission system limitations and existing plants offline due to maintenance), not only lack of local generation, contributed to power outages experienced on June 14th. In September 2000 the availability of electricity was reduced by as much as 3000 megawatts of electricity being unavailable due to maintenance of existing power plants according to the ISO. With deregulation, there is no agency that oversees the maintenance of power plants to ensure that maintenance occurs during periods of reduced demand.

It is on the rare occasions during periods of extreme heat that the peak demand for electricity reduces operating reserves to dangerous levels. According to the CEC's California Energy Demand 2000-2010 Report, California's peak demand typically occurs on a day in August between the hours of 3 and 5 pm. This year, the ISO-wide peak demand was 45,494 Mw on

August 16th, 2000 (CEC, Wholesale Electricity Price Review, September 2000). The report also indicates that air conditioning is the most important end use when ranked by contribution to peak demand. It could be argued that the problem is not so much a lack of power generation but the excessive use of air conditioning on extremely hot days that contributes to power shortages and system reliability problems.

The California ISO identified five possible solutions to the peak period energy shortage problem in their Resource Adequacy Reliability Study dated February 4, 2000.

- New Generating Facilities
- New Transmission Facilities
- Load Management
- Distributed Generation
- Price Responsive Load

Given the multitude of relatively simple options to address this problem, the construction of a power plant in a location that conflicts with local land use policies appears to be a drastic measure. Below is a further discussion of these alternatives.

New Generating Facilities

Calpine is one of many merchant power providers that are now in the process of attempting to meet the energy demands of California. Nationwide**.** Nationwide, according to the North American Electricity Reliability Council (NERC), current and planned generation projects are likely to meet the needs of customers between now and 2008. (Edison Electric Institute, Electricity Generation, A Key Element of Reliability, May 2000) If projections are accurate, the State could have a surplus of new power generation in the next few years.

Below is a summary of recently approved power plants according to an October 25, 2000 press release from the California Energy Commission announcing the CEC's recent approval of the Moss Landing power plant in Monterey County.

> *"The project is scheduled to be on-line by the summer of 2002 when it will increase the total generating capacity of the Moss Landing plant to approximately 2,590 megawatts. The Moss Landing Power Plant becomes the sixth California power plant the Energy Commission has approved since the State's electricity market was restructured in March 1998. When operating, these plants will represent a total generation capacity of 4,708-megawatts, with 2,048 megawatts expected to be on-line by 2001".*

Other projects approved by the Energy Commission include:

- ***Delta Energy Center** -- a $450 million, 880-megawatt, natural gas-fired, combined cycle facility that will be located on an undeveloped 20-acre parcel at the Dow Chemical*

Company plant, northwest of the adjacent Delta Diablo Sanitation District treatment facility in the City of Pittsburg. The expected completion date for this project is July 2002.

- ***High Desert*** *-- a $350 million, 720-megawatt natural gas-fueled electricity generation power plant to be built on a 25-acre site within the northwest corner of the Southern California Logistics Airport, formerly the George Air Force Base, in the City of Victorville, San Bernardino County. The expected completion date for this project is December 2002.*

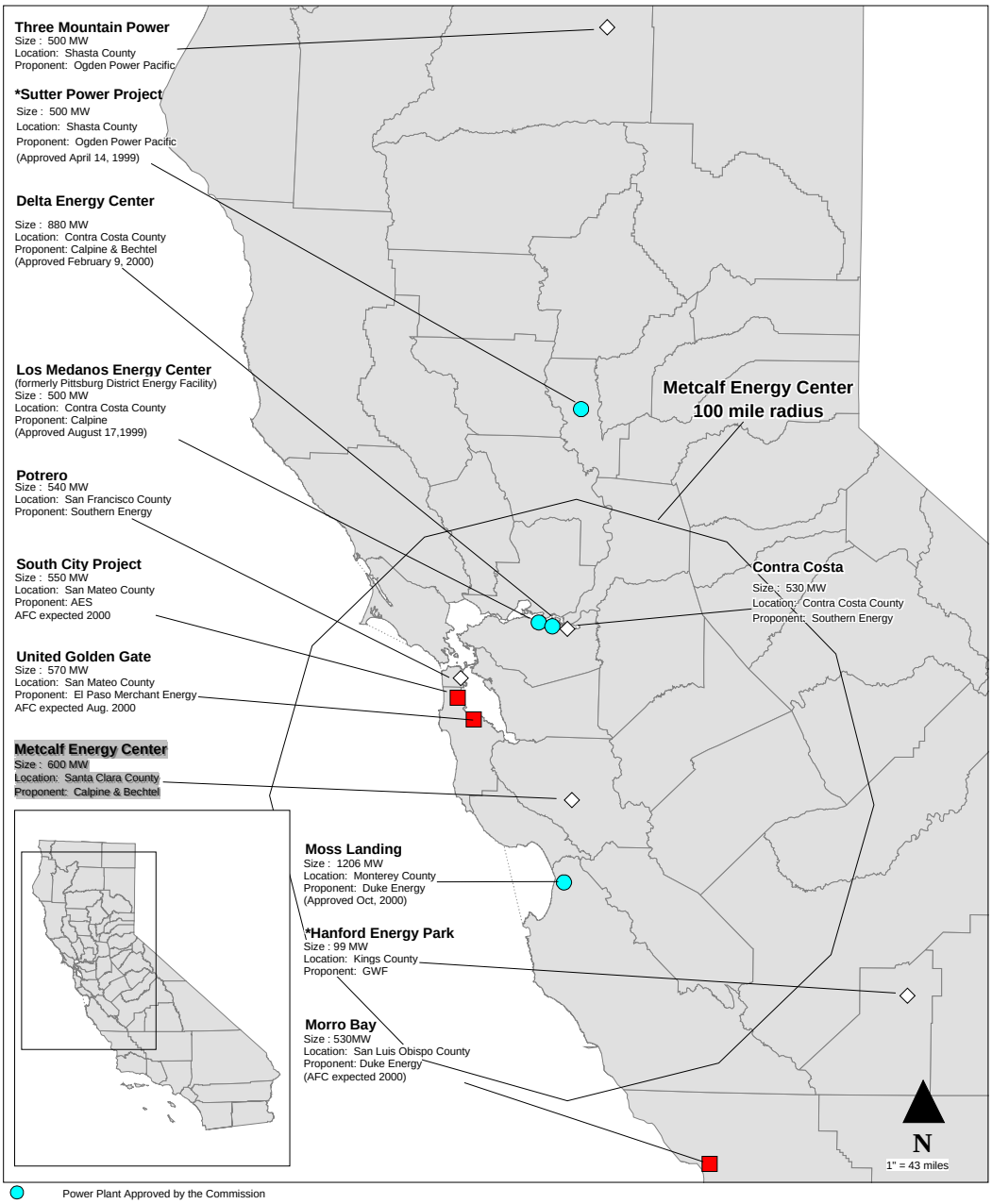
- ***La Paloma*** *-- a $730 million, 1,048-megawatt natural gas-fired, combined cycle power generating facility to be constructed 40 miles west of Bakersfield, approximately two miles east of the unincorporated community of McKittrick, Kern County. The expected completion date for this project is August 2001.*

- ***Los Medanos Energy Center*** *-- formerly known as the Pittsburg District Energy Facility project, this $300 million 500-megawatt electric generation facility will be located on 12 acres on the northwest corner of property owned by USS-Posco Industries on East 3rd Street in the City of Pittsburg, Contra Costa County. The project should start producing power in July 2001.*

- ***Sutter Power Project*** *-- a $300 million, 500-megawatt natural gas-fired, combined cycle plant is being built adjacent to the Calpine's Greenleaf Unit No. 1 facility on South Township Road near Yuba City, Sutter County. The project is expected to come on-line August 2001.*

The Los Medanos Energy Center and the Delta Energy Center will be particularly beneficial given their location within the ISO's Greater Bay Area transmission system. In August 2000, the PUC concluded in their report to the Governor that *"if projections are accurate, in five to ten years, California will have built sufficient electric supplies to power its economy*(California Public Utilities Commission, California's Electricity Options and Challenges, 8-18-00) As of August 28, 2000, there were four power plants under construction in California consisting of 2,923 megawatts of generation capacity. The CEC was reviewing another 14 power plant proposals, including Metcalf Energy Center, comprising 8,015 megawatts of electricity generating capacity. See the map below of pending and approved power plants in Northern California.

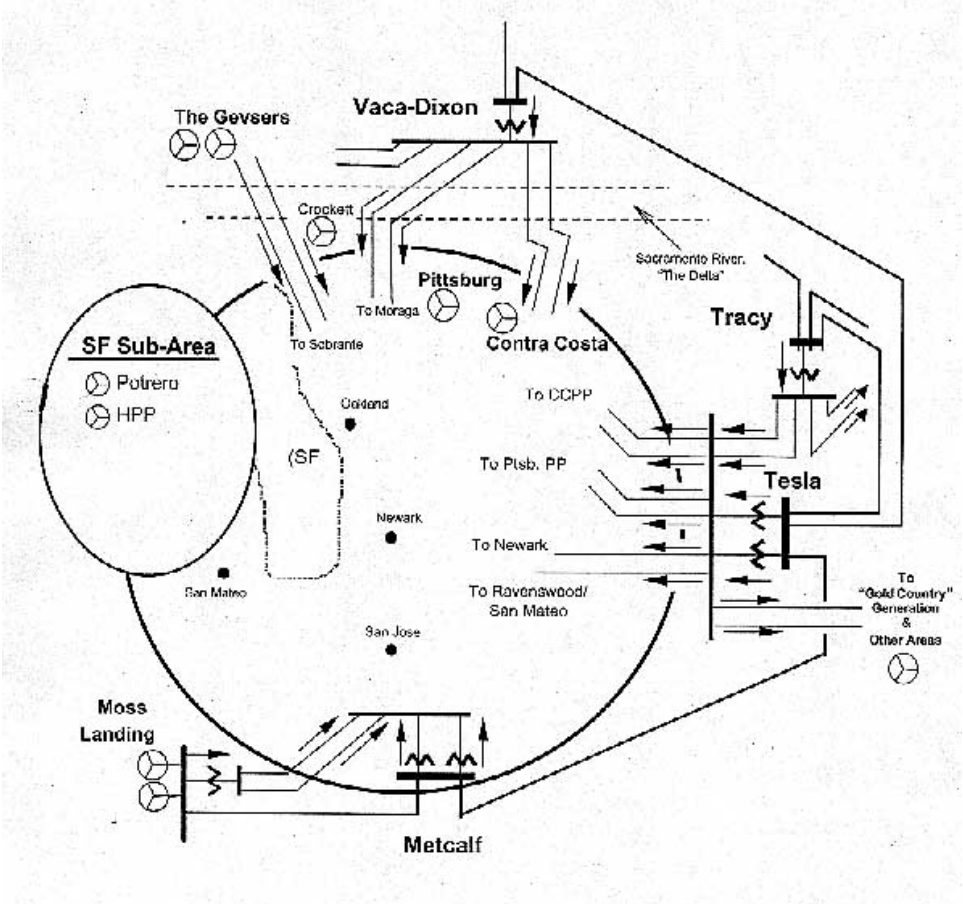
Current, Expected and Approved Power Plant Licensing Cases
in
Northern California



To address projected deficiencies next summer, the California ISO intends to utilize up to 1865 megawatts of electricity from temporary peaking power generators located at existing substations. Currently, Calpine has proposed one temporary facility at an existing substation in Santa Clara that would operate during the summers of 2001 through 2003. This is viewed as a temporary solution until additional new power plants begin operation.

New Transmission Systems

Limitations in the region's electrical transmission systems have contributed to the recent reliability problems experienced in the San Francisco Bay Area. The transmission lines are owned by PG&E and controlled by the California Independent System Operator. Improvements are needed to allow for both increased power importation into the area and improved transmission within the Bay Area. Below is a diagram of the ISO's Greater Bay Area Transmission System.



Each year, the California Independent System Operator conducts the Local Area Reliability Study to identify the transmission and generation facilities necessary for maintaining adequate levels of system reliability. According to the *Year 2002-2004 Reliability Must-Run Study* from the ISO, there is no projected deficiency of electricity in the Bay Area in 2002 through 2004. Therefore the proposed Metcalf Energy Center and the Delta Energy Center (under construction) are not necessary for the purpose of maintaining Bay Area system reliability. This is predominantly the result of many transmission system improvements that are anticipated to be in place within the next couple of years. Below is a listing from the ISO report of some of the specific Bay Area Transmission projects that in combination with new power plants in the Bay Area and vicinity (Los Medanos, Delta Energy Center, and Moss Landing) are anticipated to result in substantial system reliability benefits.

Bay Area Transmission Projects

Project	**Planned Operating Date**
Tesla 3rd Transformer, 500/230 (permanent)	Before 2002
Metcalf Capacitor, 350 MVAR	Before 2002
Martin Capacitor, 100 MVAR	Before 2002
Tesla-Newark Line	Before 2002
Newark-Ravenswood-San Martin Line	Before 2002
Metcalf-Monte Vista Line, unbundle	Before 2002
Mountain View-Whisman Line	Before 2002
Lodi 2000 LARS Transmission	Before 2002
Tracy 2nd Transformer 500/230	Before 2002
Eightmile Substation loop	Before 2002
Lakewood 115kV project	Before 2002
2000 LARS CTs	Before 2002

The CEC's Final Staff Assessment includes a section on Local System Effects prepared in conjunction with an ISO staff member that concludes that the Metcalf Energy Center would have local system reliability benefits. These benefits would come predominantly from the reduction of 39 Mw of system losses in 2005. The report indicates that these reduced system losses would translate into $23-34 million dollars in savings to California ratepayers over 20 years. A local plant reduces the need to transmit electricity over long distance transmission lines that result in increased electricity loss from the transmission lines. The project would also potentially

contribute to the deferral or relocation (not replacement) of substantial capital facilities planned or currently located in the South Bay and Greater Bay Area. The report does not conclude that the project is required to avoid future rolling blackouts.

Energy Conservation/Load Management

The General Plan Sustainable City Major Strategy promotes the development of *"a city designed, constructed, and operated to minimize waste, efficiently use its natural resources and to manage and conserve them for the use of present and future generations."* New power plants should not be viewed as the only approach to address the area's peak period energy supply problems. The California Energy Commission staff base their arguments for the need for the Metcalf Energy Center on the assumption of continued increases in the rate of growth of energy consumption and do not take into account any level of reduced demand that may result from deregulated electricity costs or voluntary efforts on the part of commercial and industrial consumers to reduce peak period electricity consumption.

One of the results of deregulation may likely be that consumers will face market prices rather than fixed, regulated rates, creating economic incentives for conservation that did not previously exist. According to the Edison Electric Institute, *"market prices give consumers appropriate incentives to cut back on power usage when prices rise in tight markets and to make appropriate investments in cost-effective means for reducing and managing their electrical demand"* (Edison Electric Institute, Electricity Generation, A Key Element of Reliability, May 2000).

This has proven to be true in San Diego. Energy consumption has been measurably reduced in the San Diego area according to a September 29, 2000 memorandum from the ISO's Chief Operations Officer to the ISO Board. The memo indicates "*SDG&E has experienced a significant impact on peak load this summer and expects the same to happen next summer to a lesser degree*." The amount of this load reduction is 256 Mw, which includes 189 Mw of price elasticity, 27 Mw of new cogeneration and 40 Mw of voluntary curtailments. SDG&E used a conservative approach in determining the amount of load reduction such that the reduction is forecasted load could be greater. The potential for price-induced conservation is likely substantially higher in the Bay Area given the higher peak electric demand.

The extent to which electricity rates will increase in the Bay Area has yet to be determined, however the San Diego situation demonstrates that likely increases in electricity rates during peak periods can reduce wasteful consumption of electricity and can reduce the need for new power plants in inappropriate locations. Similar to the Bay Area, the ISO had projected a generation deficiency in San Diego. Upon factoring in increased conservation, San Diego Gas & Electric indicated in an attachment to a September 21, 2000 letter to the ISO that *"with the higher prices and load reduction in 2001, the generation deficiency is non-existent."* "In total, SDG&E expects peak demand for 2001 to drop 4.3% due to significant changes in electric rates relative to the original peak load forecast. As a result the ISO decided not to pay for 120 Mw of proposed new generation in the San Diego area. Given the uncertainty as to the eventual price of electricity and its documented impact on consumption, it would to seem to be very difficult to

project future energy demands with any level of confidence. Certainly not enough certainty to base a decision to approve a power plant in conflict with the local residents concerns and local land use policies.

One of the potential benefits of deregulation is expected to be the development of coordinated programs to reduce wasteful consumption of electricity while reducing the likelihood of costly blackouts. For example, Silicon Valley Power, the City of Santa Clara's publicly owned utility, is coordinating with fifteen technology customers and Santa Clara University in a "power reduction pool" to eliminate blackouts during peak periods. In an October 19, 2000 article from the Reuters News Service, *"Chipmaker Intel, for example, said it could save up to 3.5 Mw by reducing lighting and raising its air conditioning thermostats by 1 to 2 degrees. Networking company 3Com said it had installed energy efficient lighting and new heating-air conditioning systems in 1.2 million square feet of offices at 13 buildings in Santa Clara."* Given the large number of similar types of firms in San Jose and the Bay Area, the potential for demand reduction are significant. Coordinated efforts such as these involving relatively simple conservation and load management measures are certainly preferable to the approval of major power plants in inappropriate locations.

PG&E currently recommends simple measures to both commercial and residential customers such as turning off unused computers and lights in unoccupied rooms and setting thermostats at 78 degrees to curtail energy consumption. PG&E also offers rebates to residential customers that purchase energy-saving appliances and cash incentives for businesses buying efficient equipment, including air conditioning, lighting, and refrigeration. After deregulation, there will likely be incentives to conserve that do not currently exist. Measures to conserve electricity and to shift the load to non-peak demand periods are preferable to the construction of the proposed power plant to address excessive energy consumption on the relatively rare occasions on which San Jose experiences extreme temperatures. These measures should be encouraged so that they become common practice to reduce the community's consumption of energy consistent with the intent of the Sustainable City Major Strategy of the *San Jose 2020 General Plan*.

Distributed Generation

In addition to the transition from a regulated to a deregulated energy system, there is also anticipated to be a gradual transition from a centralized to a decentralized or distributed power generation system. As an alternative to a centrally located power plant, energy will be a produced close to the point of use and input into the grid from a number of distributed facilities. Distributed energy is described by the California PUC as *"generation, storage, or demand side management devices, measures, and/or technologies that are connected to or injected in to the distribution level of the electric transmission and distribution grids on either the customer side or utility side of the meter or elsewhere on the distribution grid"* (Distributed Resources: Report and Review of Comments to the Illinois Commerce Commission's Electric Policy Committee, March 2000)

According to the Department of Energy (DOE), "*distributed generation holds great promise for improving the electrical generation system for the United States in ways that strongly support the primary energy efficiency and renewable energy goals of the U.S. Department of Energy. Distributed generation offers customers benefits in the form of increased reliability, uninterruptible service, energy cost savings, and onsite efficiencies. Electric utility operations can also benefit. Smaller distributed-generation facilities can delay or eliminate the need to build new large central generating plants or transmission and distribution lines. They can also help smooth out peak demand patterns, reduce transmission losses, and improve quality of service to outlying areas*" (DOE, Making Connections: Case Studies of Barriers to Interconnection of Distributed Power, July 2000).

There are a number of emerging technologies in the area of distributed generation that can be potentially utilized to assist in maintaining system reliability in an environmentally sensitive manner. Economically viable alternatives to heavily polluting diesel generators are available for standby generation and it is anticipated that their use will become increasingly common. Based on information from the U.S. Department of Energy's Distributed Power Program, the following is a sample of some of the more promising technologies:

- **Fuel Cells** - Fuel cell systems are electrochemical devices that cleanly convert natural gas and other hydrocarbon fuels directly into electricity, thus avoiding combustion and the associated environmental side effects. Fuel cells are combined into stacks that can be sized according to customer needs, from 1 kW units for mobile applications to 200kW units suitable for powering commercial buildings, and up to 100Mw plants capable of adding baseload capacity to utility plants. General Electric is currently in the process of testing fuel cells to be used for the residential power market.

- **Photovoltaics (PV)** - Photovoltaics power cells are solid-State semiconductor devices that convert sunlight into direct current electrical power. A static power conditioner inverts the DC power in to AC power for direct consumption or for export into the grid. Increased use of PV technology is particularly suitable for California as peak power output typically coincides with peak demand during periods of extreme heat.

- **Microturbines** - Microturbines are very small, high-speed generator power plants that include the turbine, compressor, and generator on a single shaft, and the power electronics for delivering power to the grid. Current outputs range from 30kW to 300kW, but individual units can be packaged together to serve larger loads. Research and development is underway to further reduce emissions. Microturbines are currently undergoing trials in commercial applications.

More information on the topic of Distributed Power Generation is readily available at the DOE's Distributed Power Program web site at www.eren.doe.gov/distributedpower.

A concerted effort is needed to further the development of distributed generation technologies that can produce power in addition to, or in place of power from the grid. It is anticipated that the imposition of market prices for electricity in the next couple of years will create additional incentives for the development of these technologies. Efforts are underway to remove the barriers to interconnection to the energy grid imposed by government and utilities. Many companies are hurriedly developing distributed power technologies and new technological advances are expected in the next couple of years, spurred on by increasing demand. The promotion of these technologies is consistent with the General Plan Energy Policy #9 which states that "*The City should encourage the development of renewable energy sources and alternative fuels and cooperate with other public and quasi-public agencies in furthering this policy."*

Price Responsive Load

With improved knowledge of the actual costs of electricity, it is generally assumed that consumers will reduce consumption during periods of highest costs. For example, it is common knowledge that the cost of long distance phone calls is lower during the evening and on weekends in which demand is lower and the phone system has more capacity. While the wholesale price of electricity varies according to changing levels of supply and demand, under regulation, consumers pay a flat rate that does not reflect the increased costs of generating and transmitting electricity during periods of high demand. This will likely change after the full implementation of electricity deregulation in the Bay Area. According to a July 25, 2000 press release from San Diego Mayor Susan Golding, San Diego's Electricity Action Plan includes the following recommendation:

> *"Request that the PUC immediately support widespread real-time metering to give consumers more control over their energy consumption. Many consumers falsely believe that they can lower their electricity bills in direct proportion to their personal consumption. However, electricity rates are based on daily averages (blended rates), which are heightened by high peak period usage. Real-time meters will enable consumers to see when those peak periods are, and to react accordingly. If a large number of consumers reduce their usage during these periods, it will have the effect of lowering electricity rates. Currently only some larger consumers have access to real-time metering. Smaller consumers should have the same option."*

In addition to real time metering, with today's computer capabilities, it is likely that future technological innovations would allow for electricity consumption from air conditioning, lighting and refrigeration to be reduced automatically in response to varying electricity rates or time of day. These measures would also reduce the risk of blackouts, as consumption would decrease in response to the increased cost of electricity during peak demand periods.

According to PG&E, approximately 75 Bay Area customers take part in the Non-Firm Interruptible Program and have readily curtailed their energy usage when it has been necessary during times of great demand on the electric system. The program offers qualifying customers a

lower rate in exchange for Pacific Gas and Electric Company's ability to curtail their energy consumption with very short notice. The system was most recently utilized in mid September of this year in response to a Stage 2 emergency issued by the ISO and consumption was sufficiently reduced to avoid the blackouts.

Given that the project could not be completed until 2003 at the earliest, the proposed Metcalf Energy Center would do nothing to address the short-term deficiencies in the area's electrical system. The State is well on its way to making up for the lack of new power plant construction that has occurred as a result of uncertainties surrounding the transition from a regulated to a deregulated electricity market. **The siting of a power plant in conflict with the Planning policies of the City of San Jose or any local jurisdiction is not justified**. It is the position of the Planning staff that first priority should be given to less extreme measures such as upgrades to existing inefficient power plants and inadequate transmission facilities and to the expansion of conservation programs.

ENVIRONMENTAL REVIEW STATUS

In situations where a project is being reviewed by more than one public agency, the California Environmental Quality Act (CEQA) specifies that one agency is determined to be the lead agency and is responsible for preparing the Environmental Impact Report or equivalent document. For thermal power plants, the California Energy Commission is defined as the lead agency.

CEQA provides that a regulatory program of a State agency shall be certified by the Secretary for Resources as being exempt from the requirements for preparing EIRs, Negative Declarations, and Initial Studies if the program meets certain criteria. The power plant site certification program of the California Energy Commission under the Warren-Alquist Act is listed as qualifying for this exemption and has been certified by the Secretary for Resources. Certification of a program formally recognizes that an environmental analysis undertaken in compliance with the certified program is the functional equivalent of a CEQA analysis.

While state law does not preclude the City from doing its own environmental analysis in addition to that performed by the CEC, state law does require that any other public agency that must make a decision that is subject to CEQA on a power plant site shall use the environmental document(s) prepared by the CEC in the same manner as they would otherwise use an EIR. For this reason, among others, the preparation of an Environmental Impact Report was not required of Calpine/Bechtel for the land use entitlements pending with the City.

Public Resources Code Section 25519 (c) states: *"If the commission prepares a document or documents in the place of an environmental impact report or negative declaration under a regulatory program certified pursuant to Section 21080.5, any other public agency which must make a decision which is subject to the California Environmental Quality Act, Division 13 (commencing with Section 21000), on a site or related facility, shall use the document or*

documents prepared by the commission in the same manner as they would use an environmental impact report or negative declaration prepared by a lead agency." A "commission document" is one prepared by or on behalf of the five-member Commission and not CEC staff. The first document produced by the Commission which qualifies under this statute is a record of decision to approve or deny the power plant, along with environmental information, findings and, if approved, conditions of approval. Although there is not a firm date by which this document will be produced or approved by the Commission, it is not expected until February 2001 at the very earliest.

In other words, there is no environmental clearance at this time for the pending General Plan Amendment and Planned Development Zoning. Therefore, the only choices for action are denial of the applications or deferral of action until an environmental clearance document has been completed by the Commission.

PUBLIC OUTREACH

COMMENTS FROM OTHER AGENCIES

In 1999, David J. Bischoff, the City of Morgan Hill Director of Community Development, has expressed concern over the potential impacts of the proposed power plant on the residents of Morgan Hill. He indicated that the proposed General Plan amendment should either be denied or deferred until adequate information is provided to evaluate project impacts.

PUBLIC COMMENTS

There is substantial public interest in the proposed Metcalf Energy Center. Planning staff has received written communications and the proposed amendment has been the subject of numerous public meetings. The Department of Planning, Building and Code Enforcement conducted three community meetings (September 9th, 13th, and 16th, 1999) at various locations throughout the City to discuss the 1999 Annual Review of the General Plan. The subject amendment was a separate agenda item and specifically discussed at each meeting. These meetings were well attended and staff received numerous questions and comments regarding this and other proposed General Plan Amendment at all three of the meetings.

In addition, District 2 Councilmember Charlotte Powers established the Metcalf Energy Center Advisory Committee made up of neighborhood representatives and technical experts to assess the issues related to the project. The Advisory Committee has conducted numerous meetings, including joint meetings with the CEC on specific topic areas. These meetings included presentations on process and technical issues from the staffs of both the City of San Jose and California Energy Commission as well as provided an opportunity for the public to voice their concerns. The group is preparing a separate recommendation on the proposed project.

Further, the proposed project has been the subject of community meetings and workshops conducted by the California Energy Commission as a part of the Application for Certification review process. The CEC's process includes numerous opportunities for public input throughout the various phases of review.

A specific e-mail address was established on the Department's web site for the purpose of taking public comments on the project. E-mails received are attached to the Staff Report.

The following is a summary of the issues raised by the community:

In Support of the Power Plant:

- San Jose needs the power to continue its economic expansion.
- The power plant is needed to prevent the reoccurrence of rolling blackouts that occurred in June 2000.
- The plant is appropriately sited, as it would avoid the need to construct extensive new transmission facilities and is located in close proximity to the existing Metcalf Substation.
- The need for energy outweighs the concerns of the local residents in regards to the inappropriateness of the land use.
- The project will provide many construction-related jobs.
- The plant would reduce the need for the use of diesel generators for purposes of backup power supply.

In Opposition to the Power Plant:

- The power plant would have significant emissions that would increase air pollution and pose a health risk to residents of the community.
- The project is located too close to existing residential areas to the north on the opposite side of Tulare Hill and to future residential areas planned for the area currently designated in the General Plan as the Coyote Valley Urban Reserve. A more rural location should be found for the power plant.
- The presence of a power plant at the proposed location would negatively influence the value of property in the vicinity.

- The modeling being performed to analyze the air quality and noise impacts doesn't adequately account for local topographic and meteorological conditions.

- The project would lead to additional "heavy industrial" uses in the North Coyote Valley as opposed to lower intensity Campus Industrial development as is currently planned.

- The project will discourage future Campus Industrial development in the North Coyote Valley.

- The project will result in similar environmental impacts (water and soil contamination) as occurred with the recently demolished Fairchild semiconductor facility.

- The use and storage of hazardous materials on the property presents a potential danger to neighborhood residents and "sensitive receptors" including the Encinal Elementary School (1.4 miles to the southeast).

- The project should not be approved in San Jose, as there is no benefit to having a power plant located in close proximity to San Jose due to the method in which electricity is distributed through a Statewide energy exchange.

- The power plant is not needed, as there will be adequate generating capacity with the construction of new power plants in the area including the proposed upgrade to the Moss Landing facility.

- First priority should be given to the retrofit of existing energy facilities, similar to that occurring at the Moss Landing power plant in Monterey County.

- The City should be encouraging the production of power from renewable, non-fossil fuel sources.

- The Preliminary and Final Staff Assessments were incomplete, as they did not address all potential issues associated with the project.

- The plant does not utilize the most "state of the art" emission control technology as the applicant had claimed.

JAMES R. DERRYBERRY, DIRECTOR
Planning, Building and Code Enforcement

cc: Curt Hildebrand, Calpine
Ken Abreu, Calpine
Valerie Young, CH_2MHill

Attachments:
PDC Plan Set
Conditions
Environmental Services Memo
Public Works Memo
Fire Memo
Correspondence, including e-mail